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PROVISIONAL INTELLIGENCE REPORT

THE 1954-55 FOOD SITUATION  
IN THE SINO-SOVIET BLOC

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THE 1954-55 FOOD SITUATION IN THE SINO-SOVIET BLOC

CIA/RR PR-136

(ORR Project 21.450)

NOTICE

The data and conclusions contained in this report do not necessarily represent the final position of ORR and should be regarded as provisional only and subject to revision. Comments and data which may be available to the user are solicited.

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## FOREWORD

This report describes the availability of food in the USSR, the European Satellites, and Communist China during the consumption year from 1 July 1954 through 30 June 1955. To provide comparative evaluations, availabilities of food during a prewar period and during the 1953-54 consumption year are also described.

The supply and consumption of food in each country are measured by the conventional "food balance," a statistical device which reflects directly the standard of living and indirectly the economic progress of a country. Properly prepared, the food balance is an accurate indication of the availability of food in different periods of time in a given country and in different countries at a given period of time.

The quantities of food available for human consumption in a country depend on production, net trade, changes in stocks, and nonfood uses -- seed and waste, feed for livestock, and industrial utilization. In estimating the availability of certain grains and oilseeds, the extraction rates in processing also must be considered. Because of the many factors involved in deriving a food balance, and because of the lack of specific data concerning those factors, the food balance must be an approximation. It expresses the national average of food availability in terms of calories per capita per day, but it does not reflect the many disparities in levels of consumption among population groups. Moreover, only the major foodstuffs are considered in the food balance, and food "consumed" is measured in terms of food available to the producer at the source level and to the nonproducer at the wholesale level -- after retail sale the extent to which food is wasted, misused, or fed to animals by the nonproducers is unknown.

This report should be considered as a preliminary and tentative analysis of the 1954-55 food situation in the Sino-Soviet Bloc. In particular, the estimates of trade, changes in stocks, and, consequently, gross availability for use as food should be considered tentative. Lack of information makes impossible any direct appraisal of current consumption. It has been necessary, therefore, to use historical information on consumption, evaluated in the light of current conditions and Bloc policies, to derive an estimate of the quantities of food available during the 1954-55 consumption year.

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The data in this report do not represent measured or weighed quantities. They are, at best, estimates based on all available information and as such may have a range of error of at least plus or minus 5 percent.

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THE 1954-55 FOOD SITUATION IN THE SINO-SOVIET BLOC\*

Summary

The availability of food in the countries of the Sino-Soviet Bloc during the consumption year from 1 July 1954 through 30 June 1955 was still below prewar levels. In terms of calories per capita per day, the availability of food for human consumption\*\* during 1954-55 ranged from a low of 1,674 in Communist China to a high of 2,963 in Poland. The daily per capita caloric intake in the USSR was 2,642.

In the USSR, grains and potatoes contribute about 75 percent of the calories in the average Soviet diet. Although 1954 production of these foods increased slightly over 1953 levels, the indigenous supply was still below prewar levels, and Soviet authorities again had to draw about 2 million metric tons\*\*\* of grain from reserves. The 1954-55 availability of the so-called "quality" foods -- meat, fats, milk, fish, and sugar -- that provide less than 25 percent of the total calories increased about 4 percent above 1953-54 availability but was 2 percent below the level of 1938-39.

The pattern of the Soviet diet has remained about the same since prerevolution years. This pattern, more nearly Asiatic than European, is characterized by a high-carbohydrate diet of grains and potatoes and by some of the world's lowest consumption rates of protein and fatty foods. As a nation's economy becomes industrialized and its population becomes urbanized, the requirements for a better balanced diet, relatively high in the proportion of quality foods, tend to rise. The rapid industrialization of the USSR has not brought such an improvement in the quality of the diet. The deficiency has retarded labor productivity and has given rise to the recent emphasis on improving consumer welfare through greater production of agricultural commodities.

\* The estimates and conclusions contained in this report represent the best judgment of ORR as of 15 November 1955.

\*\* The foods used in deriving food balances normally account for about 95 percent of the total calories in a national diet. Statistics used in this report have not been adjusted to 100 percent.

\*\*\* Tonnages throughout this report are given in metric tons.

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Some attempt has been made to improve the quality of the Soviet diet by imports of meat and other quality foods. The caloric value of these imports, however, may be largely offset by exports of grains. It is consistent with Soviet policy that the USSR continues to export grains and is at the same time forced to withdraw from reserves grains for domestic consumption. The Soviet export policy depends on political and economic considerations that usually circumvent restrictions arising from current production and utilization.

Since early 1954, Soviet leaders have launched two extensive programs designed to raise agricultural production: (1) expansion of grain acreages on "new lands" in which both soil and climatic conditions are marginal and (2) expansion of corn acreages in the Ukraine and in other areas of the USSR that are not well suited for the growing of corn. Natural limitations, particularly climate, appear to be such as to prevent the long-run success of either of these programs.

In the European Satellites as a whole, agricultural production in 1954 increased only 1 percent above that of 1953, once again failing to reach prewar levels, despite government policies directed toward increasing productivity under the "new course." In 1954, there was a serious decline in production of bread grains, particularly in Hungary, Czechoslovakia, and East Germany. Production of potatoes and sugar beets increased somewhat in the major growing areas, but the quality of these crops was affected by high moisture content. Actual production of sugar in 1954 in the European Satellites as a whole was lower than production in 1953. The supply of animal products has failed continually to satisfy increasing postwar demands, and there was no significant increase in production in 1954. To maintain consumption levels during 1954-55, the European Satellites probably have had to depend on imports to a greater extent than at any time since 1947.

The more highly industrialized northern European Satellites have had the greatest difficulty in meeting both quantitative and qualitative requirements for food. A decline in production of animal fats and vegetable oils has been felt especially by East Germany and Czechoslovakia. In an attempt to obtain more meat and dairy products, both countries have made trade overtures to Western countries. Not only has low production plagued the European Satellites but also the

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problem of procuring foodstuffs from the farmers has been a pressing one during recent years. East Germany in particular has suffered during the 1954-55 consumption year. The government has been unable to procure adequate quantities of food from the producers and also has been unable to increase imports to make up for this loss. The shortages have created unrest among the workers and have contributed to lower labor productivity in East Germany.

During the next 2 or 3 years, improvement in the quality of the diet in the European Satellites will have to come from increased imports rather than from indigenous production. It is improbable, however, that the governments of the European Satellites will be willing to expend the amounts of foreign exchange that would be required to purchase the large quantities of animal products needed to effect a significant improvement in the diet of the average worker.

In Communist China, gross production of food in 1954-55 was about 4.5 percent below 1953-54 levels, and it was still at the general level of the 1931-37 average. From 1937 to 1954, however, population had increased by 22 percent. In 1954-55, then, the availability of food for human consumption, in terms of calories per capita per day, was about 20 percent below the prewar level.

Production of food in Communist China in 1954-55 was curtailed seriously by extensive floods in the rice-producing districts of the Yangtze and Huai Rivers. Winter production of crops, however, was greater than that of the previous year, and production of crops outside the flooded areas somewhat offset the losses caused by the floods.

In the prewar period, China was a net importer of food grains and a major exporter of vegetable oilseeds, largely soybeans. In the postwar years, China has reversed its position and has become a net exporter of food grains. Although Communist China has continued to be a major exporter of oilseeds, exports have not regained prewar levels after falling off during World War II. During 1954-55, Communist China continued to be a net exporter of food, total exports amounting to about 40 calories per capita per day, 2.4 percent of the national average diet.

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Because the national diet in Communist China is relatively a very poor one, the export of food has aroused some resentment. The export of foodstuffs, however, is an important means of acquiring capital for the Chinese Communist industrialization program, and official propaganda has tried to minimize the importance of exports of food, especially of those to the USSR.

Little is known about the effect on food availabilities of the Chinese Communist efforts to stockpile grain. The government has indicated its intention to stockpile between 16 million and 20 million tons of grain by the end of 1957, but apparently there has been very little progress toward this goal.

Because efforts to increase production of food have been unsuccessful, the Chinese Communists have inaugurated a program of food transfer between surplus and deficit regions and have imposed rationing restrictions on a considerable segment of the population. Preharvest hunger has been common, however, and in some areas there has been actual famine.

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## I. Introduction.

Production of food in the USSR and the European Satellites occupies more than half of the labor force but provides the people with only a modest diet. To provide a diet still less adequate requires the efforts of more than 75 percent of the labor force of Communist China. In the US, only 16 percent of the labor force works in agriculture.

The failures of the countries of the Sino-Soviet Bloc to solve their food problems have given the question of food supply a central position in government policy. It is the purpose of this report to discuss such policies, and the programs that have resulted from them, only to the extent that such discussion will assist in analyzing the problems of food consumption in 1954-55 in the individual countries of the Sino-Soviet Bloc.

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In analyzing these problems, use is made of "food balances," the conventional means of bringing together a large part of the agricultural data of a country, so that a detailed examination and appraisal of the food and agricultural situation can be accomplished. As far as possible, the same foods are specified in making up the balances for each country. The foods specified for the USSR and the European Satellites account for about 95 percent of the total calories consumed, and the percentage may be higher for Communist China.

The scope of this report is restricted to the examination and analysis of the available food supply of each of the countries of the Sino-Soviet Bloc with regard to domestic production, international trade, and stocks. It includes an examination of the patterns of consumption in the various countries in 1954-55 and draws comparisons with selected prewar periods and postwar years. Comparisons with prewar periods are not intended to suggest any judgment on either the adequacy or the desirability of the levels of food consumption, although levels of consumption in China, the USSR, and Southeastern Europe were generally considered inadequate in prewar days. These comparisons are used because they provide a convenient measure by which the agricultural developments in the Sino-Soviet Bloc may be appraised.

The calorie is used as an over-all indication of the average quantity of food consumed. It is a measure of energy value. Unfortunately, the calorie does not measure the quality of the diet; high caloric levels are, however, generally associated with high consumption of the more desirable foods -- those containing a relatively high proportion of animal proteins and fats.

## II. USSR.

### A. General.

Food balances of the major commodities produced for human consumption in the USSR in 1954 indicate the availability of a daily intake per capita of 2,642 calories.\* This level of intake during the 1954-55 consumption year, although slightly higher\*\* than that of 1953-54, is about 4 percent below the level of 1938-39.

\* The foods shown in the food balances (see Appendix A) represent about 95 percent of the total caloric intake, which probably is about 2,781 calories per capita per day.

\*\* About 1 percent.

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In recent years the pattern of food consumption in the USSR has been about the same as in 1938-39 and is more Asiatic than European in character. The average Soviet diet continues to have a preponderance of starchy foods such as grain products and potatoes, which account for about 75 percent of the total caloric intake.

Production of grain, the most important item in the average Soviet diet, was about 5 percent higher in 1954 than in 1953, primarily because of a good harvest in the "new lands" area of Siberia and Kazakhstan, which offset the results of drought in parts of the Ukraine and the Volga region. Despite the slight increase in production of grain, it is probable that the USSR again withdrew grain from reserves, as it did in 1953-54, in order to meet both export commitments and domestic requirements.

Among the so-called "quality" foods,\* sugar showed the most significant decline in production in 1954. Soviet imports of sugar were increased significantly in order to supplement indigenous production. Imports of oilseeds were also increased somewhat over the levels of 1953-54.

Since the early spring of 1954 the USSR has launched two extensive programs designed to raise agricultural production: (1) the expansion of grain acreage on "new lands" where both soil and climatic conditions are marginal and (2) the expansion of corn acreage in the Ukraine and in other areas of the USSR not well suited to production of corn.

In view of the investment of inputs in the "new lands" and the top-level backing which the whole program is receiving, it is unlikely that the project will be quickly abandoned or even seriously curtailed in the event of a serious crop failure. Preliminary studies indicate, however, that natural limitations, particularly climate, are such as to prevent that long-run achievement of success for the "new lands" program which is anticipated by Soviet leaders.

Because of climatic limitations and the lack of adequate inputs such as lime and fertilizers, the Soviet corn program, calling for a sevenfold increase in acreage by 1960, is unlikely

\* Meat, fats and oils, milk, fish, and sugar, for example.

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to produce a significant increment of grain per hectare above that already being produced on the same land. In addition, labor input will be significantly greater for corn than for other grain or fodder crops.

B. Food Availabilities.

1. Production.

The 1954 crop season in the USSR was characterized by drought conditions in parts of the Ukraine and the Lower Volga region and exceptionally favorable weather in the "new lands" area of West Siberia and Kazakhstan. In 1954, production of grain and potatoes, the two most important foodstuffs in the Soviet diet, increased over the mediocre levels of 1953 by about 5 percent and 1 percent, respectively. Despite these slight increases, production of these foods in 1954 was still below the prewar levels by 2 percent and 10 percent, respectively. In the meantime, the population had increased 13 percent.

Of the remaining food items, sugar showed the most significant decline in indigenous production. Production of sugar in 1954 is estimated at about three-fourths of the 1953 tonnage and slightly above the level of 1938-39. An 11-percent increase was reported for production of vegetable oils in 1954 compared with production in 1953, an increase made possible, at least in part, by increased imports of oilseeds. Production of vegetable oils in 1954 exceeded production in 1938-39 by 61 percent. Production of meat in 1954-55, compared with production in 1938-39 and 1953-54, remained at approximately the same level. Production of fish in 1954-55 increased 14 percent over that of 1953-54, to reach a level about 75 percent higher than in 1938-39. The caloric intake from fish, however, still is less than 1 percent of the national total. Production of milk in 1954-55 showed an increase of about 3 percent over production in 1953 but is still only two-thirds of the level of 1938-39.

2. Trade.

Two significant aspects of the Soviet trade pattern in 1954-55 are continued, though diminished, exports of grains and increased imports of sugar. The net export of grains, accompanied

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by a withdrawal from reserves, repeats the pattern of the 1953-54 trade year and emphasizes the fact that Soviet export policies are based on considerations other than the existence or absence of a true exportable surplus. The sharp increase in imports of sugar, chiefly from Western countries, was necessitated by the low level of production of sugar in the USSR in 1954.

In terms of calories, the food value of Soviet imports of agricultural products in 1954-55 was twice that of the exports. The net export of grain was equivalent to a daily intake of 69 calories per capita, and the net import of quality foods (sugar, meat, fats and oils, and fish) amounted to an intake of 136 calories per capita. In 1953-54 the per capita caloric contents of exports and imports were nearly equal. Imports amounted to 98 calories per capita per day, compared with 95 calories per day for exports. In 1938-39, there were no net imports, and exports amounted to 82 calories per capita per day.

### 3. Changes in Stocks.

As recently as February 1955, 1/\* Khrushchev reaffirmed the official statement concerning the need for maintaining state reserves of grain. The current food-reserve program probably was inaugurated a few years after World War II. Since that time, there have been additions to the accumulating reserves of grain and other staples, and these additions possibly reached a peak following the favorable 1952 crop season. During the 1953-54 consumption year, however, the USSR had to draw on reserve stocks of grain in order to meet current needs. 2/ A revised estimate places the withdrawal from grain reserves in 1953-54 at about 2.4 million tons.\*\*

In the 1954-55 consumption year, probably the USSR again was forced to withdraw from grain reserves -- particularly reserves of wheat -- in order to meet food requirements, to fulfill export obligations, and to provide seed for the expansion of acreage under the "new lands" program.

Indigenous production and imports of food products other than grain probably provide a supply sufficient to meet current requirements, with no net change in stocks.

\* For serially numbered source references, see Appendix D.

\*\* For methodology, see Appendix B.

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C. Food Consumption.

The daily intake per capita in the USSR in the 1954-55 consumption year is estimated to be 2,642 calories. This level of intake represents an increase of only 26 calories above the level of 1953-54 and is still 113 calories, 4 percent, below the level of 1938-39. An index of caloric consumption in the USSR, in 1938-39, 1952-53, 1953-54, and 1954-55, is shown in Table 1.

Table 1

Index of Caloric Consumption in the USSR  
1938-39, 1952-53, 1953-54, and 1954-55

<u>Year</u>	<u>Index</u>
1938-39	100
1952-53	97
1953-54	95
1954-55	96

There is no available information on the different levels of consumption among various segments of the Soviet population. In pre-war years, however, the urban population consumed a higher proportion of the quality foods than did the rural population. It is likely that this differentiation has continued and, in fact, may have increased during the last few years, when the government has been able to procure a greater proportion of meat, milk, and the like from the producing rural regions.

The distribution of food has been a continuing problem in the USSR. In February 1955, 3/ Khrushchev suggested a revision of the program for the distribution of agricultural produce -- a revision which would have the effect of increasing local responsibility for meeting production targets. In this proposal, agricultural produce

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would be allocated to various areas more on the basis of production than on need. In effect, this procedure would penalize areas failing to meet production goals. According to Khrushchev, "a definite part of the centralized state fund (food obtained through procurements) must be directed to the satisfaction of the needs of the larger towns and industrial centers which cannot draw sufficient produce from neighboring regions, and also to the satisfaction of the needs of the army, foreign trade, and state reserves. As for the remainder of the centralized fund, it must be distributed among the other towns and regions of the country with regard to their actual needs and taking into account existing production possibilities." 4/

D. Pattern of Food Consumption.

In recent years the pattern of food consumption in the USSR has been nearly the same as it was in 1938-39. The percentage distribution of calories in the USSR, by category of foodstuffs, in 1938-39, 1953-54, and 1954-55, is shown in Table 2.\*

Table 2 shows that starchy foods account for about three-fourths of the total caloric intake and that in the average Soviet diet grain products alone account for two-thirds of the total. The slight percentage changes shown in Table 2 indicate the continuity of this pattern of a relatively low-quality diet.

Daily calories per capita for selected categories of foods in the USSR, in 1938-39, 1953-54, and 1954-55, are shown in Table 3.\*\*

Table 3 shows that, in terms of absolute quantities, the caloric intake from grain products has declined in the last 2 years compared with 1938-39. There also has been a sharp decrease in consumption of whole milk. Per capita consumption of sugar and fats and oils has increased somewhat, primarily because of imports to supplement indigenous production.

\* Table 2 follows on p. 11.

\*\* Table 3 follows on p. 12.

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Table 2  
Percentage Distribution of Calories in the USSR  
1938-39, 1953-54, and 1954-55

Food	Percent		
	1938-39	1953-54	1954-55
Wheat	35.7	38.3	37.1
Rye	21.6	20.2	21.2
Total bread grains	<u>57.3</u>	<u>58.5</u>	<u>58.3</u>
Nonbread grains	10.2	7.8	7.6
Potatoes	10.3	11.7	11.3
Total basic foods	<u>77.8</u>	<u>78.0</u>	<u>77.2</u>
Meat and fish	4.1	4.1	4.0
Fats and oils	5.8	7.6	8.2
Sugar	4.3	5.5	5.7
Milk	8.0	4.8	4.9
Total quality foods	<u>22.2</u>	<u>22.0</u>	<u>22.8</u>
Total foods	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>

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Table 3  
Daily Calories per Capita of Selected Categories of Foods  
in the USSR <sup>a/</sup>  
1938-39, 1953-54, and 1954-55

Food	1938-39	1953-54		1954-55	
	Calories Consumed	Calories Consumed	Change from 1938-39	Calories Consumed	Change from 1938-39
Grain	1,859	1,734	-125	1,742	-117
Potatoes	285	305	+ 20	299	+ 14
Total basic foods	<u>2,144</u>	<u>2,039</u>	<u>-105</u>	<u>2,041</u>	<u>-103</u>
Meats and fish	112	107	- 5	106	- 6
Fats and oils	159	200	+ 41	216	+ 57
Sugar	119	143	+ 24	151	+ 32
Milk	221	127	- 94	128	- 93
Total quality foods	<u>611</u>	<u>577</u>	<u>- 34</u>	<u>601</u>	<u>- 10</u>
Total foods	<u>2,755</u>	<u>2,616</u>	<u>-139</u>	<u>2,642</u>	<u>-113</u>

a. Foods shown in the food balances (see Appendix A) represent about 95 percent of the total caloric intake.

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E. Food Requirements.

The abundant publicity given by Soviet leaders to the problems of agriculture in the USSR and the extreme measures taken to increase total output indicate the continued failure of agricultural production to meet current requirements. The necessity of withdrawals from grain reserves during the past two years further emphasizes the failure.

The "new lands" program, inaugurated in the spring of 1954 for expanding wheat acreage in marginal lands, largely in West Siberia and Kazakhstan, continues to receive great emphasis. In addition, a seven-fold expansion of corn acreage by 1960 was announced in February 1955 and has been widely publicized. These two programs are designed to increase both the numbers and productivity of livestock herds and to double the output of livestock products by 1960. Such a goal in itself is unrealistic, but it represents an attempt to improve the present low-quality diet. In February 1955 Khrushchev stated that in addition to the grain needed for direct consumption, for reserves, and for export, grain was needed to meet the requirements of an expanding livestock industry. Production of grain significantly in excess of that achieved in 1954 would be necessary, however, before feed allocations could be high enough to raise the output of livestock produce to a level permitting any significant increase in the intake per capita of such products -- particularly in view of the needs of a population which is increasing by more than 3 million per year.

F. Capabilities, Vulnerabilities, and Intentions.

1. Capabilities.

In no postwar year have food shortages been sufficiently serious to deter possible Soviet military action, and during the 1954-55 consumption year, there was no significant change in either the total caloric intake or the composition of the average Soviet diet.

In 1954 the "new lands" area of West Siberia and Kazakhstan had unusually favorable weather, and a bumper crop was harvested in much of this area. Similar success over a period of years is unlikely, but there is the possibility of generally favorable weather throughout much of the USSR in any one particular year, with a resultant production of bumper crops.

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## 2. Vulnerabilities.

The USSR is engaged in two broad programs which seem to have little likelihood of long-run success. The first of these, the grain expansion program in the "new lands" area, has been referred to briefly above. This "new lands" program is being implemented with some of the necessary inputs -- machinery, labor, building, transportation, and the like -- at a somewhat faster pace than that set in the majority of the "cure-all" programs previously inaugurated. Pending completion of more detailed research on the capabilities of the "new lands" project, it is believed, however, that natural factors, particularly climate, place definite limitations on the long-run success of the program.

The corn expansion program is the second project currently being stressed by Soviet leadership. The Soviet attempt to inaugurate an Iowa-style corn-hog program on the scale envisioned appears even more risky and costly than the "new lands" program. The USSR has no major area geographically or climatically similar to the US corn belt. Even assuming that corn is to be harvested as silage, the inputs of labor, machinery, fertilizer, and the like would be extremely large even to approach the planned goals. It is extremely doubtful that the corn expansion program will produce a significant increment per hectare above that already being produced on the same types of land by other crops. In fact, it is not improbable that the whole program will fall into disrepute, along with previously abandoned projects such as the grass rotation program in dry areas.

## 3. Intentions.

The Soviet food balance in 1954-55 contains no definable indications of intentions to wage war. The current emphasis on strengthening the agricultural sector of the economy appears to be the result of belated recognition of lags in agricultural production and does not in itself indicate definite intentions.

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### III. European Satellites.

The following discussion concerning the current food situation in the European Satellites will treat, as far as possible, the area as a whole. Where the situation in a specific country warrants individual treatment, this will be given. In discussing commodity production and food availabilities, the European Satellites will be divided into northern\* and southern\*\* groups, where such a division is applicable.

#### A. Food Availabilities.\*\*\*

##### 1. Production.

Agricultural production in 1954 in the European Satellites failed once again to reach prewar levels. In spite of government policies directed toward increasing productivity under the "new course," agricultural production in 1954 in the European Satellites as a whole registered only a 1-percent increase over 1953.

During the consumption year from 1 July 1953 through 30 June 1954, adverse growing and harvesting conditions\*\*\*\* reduced the 1954 harvest of grains and oilseeds in a number of the European Satellites. Bread grains were particularly hard hit.\*\*\*\*\* Not only was the harvest poor quantitatively, but also the quality of bread grain was below average. In the grain harvest of 1954, Poland was able to show a 13-percent increase over 1953 -- when the harvest was below normal -- and Albania and Bulgaria showed only slight increases.

Although production of potatoes in Czechoslovakia, East Germany, Hungary, and Albania was greater in 1954 than in 1953 -- East Germany having the greatest increase -- the quality of the potatoes was affected by high moisture content, and losses during storage may reduce availabilities for food. Likewise, production of sugar beets in 1954 approximated or, as in Czechoslovakia and

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\* Czechoslovakia, East Germany, and Poland..

\*\* Albania, Bulgaria, Hungary, and Rumania.

\*\*\* Statistical data contained in this section, unless otherwise noted, have been derived from Appendix A, Tables 15 through 35.

\*\*\*\* Flooded lowlands in Czechoslovakia, East Germany, and Hungary increased harvesting losses.

\*\*\*\*\* See Table 5, p. 18, below.

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East Germany, exceeded that of 1953, but the quality of the beets, in terms of sugar content, was poor, and production of sugar in 1954 in the European Satellites as a whole was less than in 1953.

Production of animals and animal products, which has continually failed to satisfy increasing postwar demands, did not increase significantly in 1954. Although there was a small over-all increase in hogs and cattle, the primary meat animals, their production in Czechoslovakia, East Germany, and Hungary decreased somewhat. None of the European Satellite governments claimed that the 1954 plan for production of animals was fulfilled.

In 1954 the European Satellites failed once more to increase availabilities of foodstuffs through increased indigenous production, despite the "new course" measures adopted. To maintain adequate levels of consumption during 1954-55, the European Satellites have had to depend, probably to a greater extent than at any time since 1947, on imports of food.

An index of agricultural production in the European Satellites, by country, in 1938 and 1948-54, is shown in Table 4.\* An index of agricultural production in the European Satellites, by product, in 1954, is shown in Table 5.\*\*

## 2. Trade.

During the 1954-55 consumption year the European Satellites imported large quantities of grain, animal fats, and fish. The northern European Satellites accounted for most of the imports of food, as they did in 1953-54. For the first time since 1947, Hungary and Rumania were net importers of bread grains. Normally exporters of grain to the West, the European Satellites negotiated for imports of approximately 1.9 million tons of grain from the West during 1954-55. Imports of quality foods, animal fats, and vegetable oil showed a slight decline. Imports of fish in 1954-55 by East Germany, the major Satellite importer, increased by 10,000 tons over imports in 1953-54.\*\*\*

\* Table 4 follows on p. 17.

\*\* Table 5 follows on p. 18.

\*\*\* Continued on p. 19.

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Table 4

Index of Agricultural Production in the European Satellites, by Country  
1938 and 1948-54

Country	1953 = 100									
	1938	1948	1949	1950	1951	1952	1953	1954		
European Satellites a/	126	77	84	97	99	96	100	101		
Bulgaria	113	112	101	104	105	99	100	106		
Czechoslovakia	117	78	86	94	94	102	100	98		
East Germany	125	65	70	84	99	99	100	100		
Hungary	154	92	104	105	111	104	100	98		
Poland	126	72	83	103	96	91	100	102		
Rumania	136	102	96	95	106	91	100	99		

a. Not including Albania.

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Table 5

Index of Agricultural Production in the European Satellites, by Product  
1954

1953 = 100

<u>Product</u>	<u>Albania</u>	<u>Bulgaria</u>	<u>Czechoslovakia</u>	<u>East Germany</u>	<u>Hungary</u>	<u>Poland</u>	<u>Rumania</u>
Field Crops							
Bread grains	109	105	87	95	78	113	94
Total grains	103	106	91	95	87	108	101
Potatoes	111	94	101	112	107	100	100
Sugar beets	93	91	104	120	100	95	97
Oilseeds	60	91	100	68	79	85	91
Livestock and Animal Products							
Horses	100	96	100	97	100	100	102
Cattle	102	104	95	98	97	104	100
Hogs	129	96	90	83	98	100	104
Sheep	108	96	127	109	101	125	101
Goats	112	100	100	85	100	100	100
Meat	114	113	80	89	110	102	100
Animal fats	100	110	91	95	114	100	100
Milk	N.A.	107	106	102	94	100	100

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For some years, sugar has been the major agricultural export item of the European Satellites. Exports of sugar in 1954-55 probably declined 150,000 tons below the levels of 1953-54, largely because of the shortfall in production. Rumania, an exporter of sugar during the postwar years, has been a net importer in the 1955 calendar year. Despite current shortages of meat throughout the Sino-Soviet Bloc, Poland and Rumania have continued to export meat to the West.

Although imports of foodstuffs by the European Satellites have increased during 1954 and 1955, they have not been sufficient to improve significantly either the quality or the quantity of the worker's diet. If requirements are to be met, greater quantities of animal products and vegetable oils will have to be imported. Such imports will force the European Satellites into greater dependence on the West; it does not appear that the USSR is willing to increase its exports of food to the Satellites. Because the European Satellites have been forced to use foreign exchange for imports of food rather than for imports of raw materials for the consumer goods industries, the planned increases of consumer goods promised under the "new course" have not materialized.

Estimated net trade in selected agricultural commodities by the European Satellites in prewar, 1953-54, and preliminary 1954-55 is shown in Table 6.\*

### 3. Changes in Stocks.\*\*

Three consecutive below-normal harvests in the European Satellites and the "new course" policy of increasing availabilities of foods to the consumer probably have forced a temporary halt in the stockpiling of foodstuffs. Although there is no definite information on state reserves, withdrawals from reserves, as announced

\* Table 6 follows on p. 20.

\*\* The term stocks refers to state reserves of food that are kept for strategic purposes -- military, economic, or political. Normal inventories and channel stocks are not considered; these stocks are assumed to be held at relatively the same level from year to year.

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Table 6

Estimated Net Trade in Selected Agricultural Commodities by the European Satellites a/  
Prewar, 1953-54, and Preliminary 1954-55

Commodity	Year	East					Thousand Metric Tons		
		Albania	Bulgaria	Czechoslovakia	Germany b/	Hungary	Poland	Rumania	Total
Bread grains	Prewar c/	+ 1.0	-135	+ 18	-565	-585	-1,135	-235	- 2,636
	1953-54	+80.5	-257	+600	+313	- 65	+ 485	-289	+ 867.5
	1954-55	+85.0	-227	+726	+303	+420	+ 845	+211	+ 2,363
Other grains	Prewar c/	+14.0	-153	+ 55	-140	- 2	- 525	-364	-1,115
	1953-54	+ 5.0	- 75	+200	+243	+ 62	- 75	- 26	+ 334
	1954-55	+10.0	- 80	+486	+236	+ 36	+ 50	-154	+ 584
Sugar	Prewar c/	+ 4.0	- 1	-217	-400	- 23	- 410	+ 7	-1,040
	1953-54	0	- 5	-176	-300	- 27	- 435	- 30	- 973
	1954-55	+ 2.0	- 5	-183	-300	- 31	- 315	+ 3	- 824
Meat	Prewar c/	0	- 5	+ 15	+ 80	- 35	- 205	- 25	- 175
	1953-54	- 0.2	-15	+ 27	+ 12	- 15	- 120	- 40	- 151.2
	1954-55	- 0.2	-16	+ 35	+ 40	- 7	- 120	- 50	- 118.2
Animal fats d/	Prewar c/	0	- 1	+ 46	+ 40	- 24	- 30	- 5	+ 26
	1953-54	+ 0.5	0	+ 5	+ 76	+ 5	- 27	0	+ 59.5
	1954-55	0	0	+ 4	+ 75	0	- 27	0	+ 52
Vegetable oils	Prewar c/	+ 6.0	- 10	+ 91	+215	+ 4	+ 85	+ 15	+ 406
	1953-54	+ 2.0	0	+ 49	+102	- 6	+ 20	+ 8	+ 175
	1954-55	+ 2.0	- 2	+ 49	+ 60	+ 1	+ 20	- 1	+ 129
Fish	Prewar c/	0	+ 1	+ 18	+ 25	0	0	+ 5	+ 49
	1953-54	0	Negligible	+ 50	+ 90	0	- 20	Negligible	+ 120
	1954-55	0	Negligible	+ 50	+100	0	- 20	Negligible	+ 130

a. The plus sign (+) denotes import, and the minus sign (-) denotes export.

b. East German commodity deliveries to Soviet occupation forces are considered as exports.

c. 1933-37 average for Albania, Bulgaria, Czechoslovakia, Hungary, and Rumania; 1934-38 average for Poland; and 1935-38 average for East Germany.

d. Including slaughter fats and butter.

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by some of the Satellites in 1953, and recent official statements of the need to increase agricultural production to provide adequate reserves in times of emergency, tend to confirm assumptions of failures in the stockpiling programs of the European Satellites. The use of critically short foreign exchange for imports of food in 1954-55, moreover, indicates the inadequacy of the reserves that the Satellites may have had to draw on in times of short supplies.

It is estimated that during 1954-55 no additions were made to state reserves of food in the European Satellites except small quantities of sugar in Czechoslovakia and of wheat in Bulgaria. If there were additions other than those mentioned, the food available to the population was in even shorter supply than is presently estimated. The possibility of grain being stockpiled by Poland should not be discounted, in view of its large imports, but there is no evidence of such stockpiling.

B. Food Consumption.\*

Estimated daily consumption of food per capita in the European Satellites during 1954-55 ranged from 1,742 calories in Albania to 2,963 calories in Poland. In the other Satellites the range was from 2,300 to 2,500 calories per day.\*\* In the US in 1954-55, normal daily consumption of food per capita was 3,200 calories.

Food rationing was abolished by Rumania in December 1954, and only Albania and East Germany still ration certain foodstuffs. With the announcement of the "new course" in 1953, the government of East Germany promised the people that food rationing would be discontinued in 1954. The poor harvest in 1954 and inadequate imports, however, prevented the abolition of rationing of meat, fats, and sugar, and in 1954-55 the caloric intake in East Germany was lower than that of 1953-54. Bulgaria and Poland were the only European Satellites able to reach or to exceed prewar levels of caloric consumption per capita in 1954-55. An index of daily consumption of food per capita in the European Satellites in 1948-49 and 1951-52 through 1954-55 is shown in Table 7.\*\*\*

\* For methodology, see Appendix A.

\*\* East Germany, 2,308; Rumania, 2,329; Hungary, 2,362; Czechoslovakia, 2,423; and Bulgaria, 2,482. The range of error in calorie estimates is 15 percent.

\*\*\* Table 7 follows on p. 22.

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Table 7

Index of Daily Consumption of Food per Capita  
in the European Satellites  
1948-49 and 1951-52 through 1954-55

Prewar = 100 <sup>a/</sup>					
Country	1948-49	1951-52	1952-53	1953-54	1954-55
Albania	N.A.	92	84	99	99
Bulgaria	102	99	90	97	102
Czechoslovakia	102	101	90	101	96
East Germany	80	80	75	91	82
Hungary	100	96	88	90	90
Poland	98	99	98	106	107
Rumania	97	97	80	84	89

a. 1933-37 average for Albania, Bulgaria, Czechoslovakia, Hungary, and Rumania; 1934-38 average for Poland; and 1935-38 average for East Germany.

A basic problem that has plagued the governments of the European Satellites in recent years is the procurement and distribution of food. During 1954-55 the situation did not improve, and every Satellite government admitted failure in fulfilling procurement plans. Because compulsory delivery quotas were reduced as part of the "new course," nonfulfillment of these quotas greatly reduced the share of indigenous food production controlled by the governments through official distribution channels. This situation created shortages in urban areas, and the population was forced to purchase a greater share of their food requirements on the free market at high prices.

East Germany in particular suffered during the 1954-55 consumption year. The government could not procure adequate quantities of foodstuffs from the peasant, and it could not increase imports to make up for this loss. As a result, consumption of food declined in the cities, and an extremely tight food situation existed throughout the last half of the 1954-55 consumption year. The shortages created

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worker unrest and contributed to lower productivity. Less serious but similar situations developed in both Czechoslovakia and Hungary. The recent reintroduction of a stiff collectivization policy in both Czechoslovakia and Hungary probably includes the strong enforcement of compulsory delivery quotas, which gives the government control of a larger share of agricultural production, particularly in years of below-normal harvests.

C. Pattern of Food Consumption.

The "new course" emphasized the need to increase consumption of quality foods, particularly of meat and fats. The growing industrialization of the European Satellites levies greater demands for animal protein for consumption by the labor force. On an average per capita basis, however, consumption of meat and animal fats has remained below prewar levels, and there was no significant improvement in the diet in the 1954-55 consumption year. The percentage contribution of selected foods to total caloric consumption in the European Satellites in prewar years, 1952-53, 1953-54, and 1954-55 is shown in Table 8.\*

The more highly industrialized northern European Satellites have had the greatest difficulty in supplying enough food of the required quality and variety. A shortfall in production of animal products and vegetable oil has been felt especially by East Germany and Czechoslovakia -- both countries have been making trade overtures to Western countries in an attempt to import meat and dairy products.

Improvement in the quality of the diet in the European Satellites during the next 2 to 3 years will have to come from increased imports rather than from indigenous production. It is unlikely, however, that the European Satellites are willing to expend the required amount of foreign exchange for the large quantity of animal products needed to effect a significant improvement in the diet of the average worker.

\* Table 8 follows on p. 24.

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Table 8

Percentage Contribution of Selected Foods to Total Caloric Consumption  
in the European Satellites  
Prewar, 1952-53, 1953-54, and 1954-55

Foods	Year	Percent				
		Albania	Bulgaria	Czechoslovakia	East Germany	Hungary Poland Rumania
Cereals	Prewar a/	81	83	51	38	62 50 82
	1952-53	87	83	54	52	57 81
	1953-54	86	87	53	46	64 50 81
	1954-55	86	87	54	48	63 52 82
Sugar	Prewar a/	3	2	9	9	4 6 2
	1952-53	2	2	7	7	8 6 1
	1953-54	3	2	8	9	2 7 2
	1954-55	3	3	9	8	10 7 3
Potatoes	Prewar a/	Negligible b/	1	11	15	9 22 4
	1952-53	Negligible	Negligible	11	13	4 19 2
	1953-54	Negligible	1	9	11	6 17 2
	1954-55	Negligible	1	10	11	6 17 2
Meat	Prewar a/	3	5	6	10	6 6 4
	1952-53	2	4	10	10	6 5 5
	1953-54	2	3	9	10	5 6 4
	1954-55	3	3	8	10	6 6 3
Fats and oils	Prewar a/	13	8	14	20	13 9 5
	1952-53	9	7	11	11	10 8 6
	1953-54	9	6	12	18	11 9 6
	1954-55	7	5	13	17	10 8 5

a. 1933-37 average for Albania, Bulgaria, Czechoslovakia, Hungary, and Rumania; 1934-38 average for Poland; and 1935-38 average for East Germany.

b. Less than 0.5 percent.

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D. Food Requirements.

In the European Satellites, official press releases during 1955 emphasized the lag in agricultural production and the failure of output to meet requirements. Substantial increases in the imports of foodstuffs from the West during 1954 and 1955 are clearly indicative of indigenous shortages. Because of the decline in indigenous production, however, the increase in imports has not been sufficient to provide a net increase in the availability of foodstuffs.

During the 1954-55 consumption year, the governments of the European Satellites made no greater progress toward a satisfactory balance between food supply and food demand than had been made in the 1953-54 consumption year. 5/ East Germany and Czechoslovakia, moreover, had greater difficulty in satisfying food requirements during 1954-55 than in 1953-54.

E. Capabilities, Vulnerabilities, and Intentions.

1. Capabilities.

Under present government policies, no immediate improvement in the food supply of the European Satellites is likely. It is possible that, on a short-term basis, tighter government control of procurement could direct a larger share of the present production of foodstuffs to the industrial worker and thereby improve his supply of food. In the long-run, however, such a program would have disastrous effects on the incentive to peasants and would reduce production to a level at which food availabilities would decrease substantially.

The military capabilities of the European Satellites, particularly East Germany, Czechoslovakia, and Hungary, have been affected by industrial workers dissatisfied with the supply of food and by the low level of agricultural productivity.

2. Vulnerabilities.

The governments of the European Satellites have been unsuccessful in raising levels of agricultural production and in obtaining an adequate share of indigenous production to meet urban

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requirements. In times of a shortfall in production, therefore, the urban population has suffered, and, lacking control over a sizable share of the food, the governments have had difficulty in lowering basic food costs to the worker.

During 1954 and 1955 the European Satellites have increased their dependence on the West for imports of foodstuffs, particularly grain, meat, animal fats, and fruit. It is probable that, in order to maintain or improve present levels of consumption of quality foods, the Satellites will be forced to continue imports from the West. If Western imports were cut off, the food supply available to the labor force would be reduced and costs would be increased. Labor productivity and industrial production would certainly decline. In spite of substantial imports of food, East Germany is now faced with a labor force highly dissatisfied because of a shortage of basic foods.

### 3. Intentions.

Positive indications of the military intentions of the European Satellites would be strict food rationing in times of normal production and major additions to state reserves of foodstuffs. There has been no evidence of such activity during the 1954-55 food consumption year.

## IV. Communist China.

### A. Food Availabilities.

#### 1. Production.

Production of food crops\* in Communist China is estimated at 156 million tons in 1954, approximately 4 to 5 percent lower than the 163 million tons estimated to have been produced in 1953.\*\*

\* Food crops do not include cottonseed, which is crushed for oil.

\*\* In these estimates, potatoes are on a gross weight basis. It has been the custom to report food production with potatoes on a grain-equivalent basis. This is not done in this report, because it is believed that the Chinese Communists are reporting production with potatoes included on a gross weight basis. Thus, in December of 1954, they claimed that production of "grain" for the year was 170 million tons. 6/ This claim fitted conveniently with the plan of January 1954, which called for a 3-percent increase in agricultural production over that of 1953.

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Production of food in 1954 was approximately at the average of production in the 1931-37 period and about 11 million tons below the peak of production in 1952 -- the best year under the Chinese Communist regime. Between 1937 and 1954 the population of China increased about 22 percent.

In 1954, production of food in Communist China was reduced seriously by the extensive floods in the chief rice-producing districts of the Yangtze and Hwai Rivers. Production of winter crops, however, was greater than that of the previous year, and other crops outside the area of floods were relatively good. Although these favorable factors somewhat offset the losses occasioned by the floods, in 1954-55 the availability of foods for human consumption, in terms of calories per capita per day, was about 20 percent below the level of 1931-37.

In contrast to prewar levels in China, there has been in recent years a definite decrease in the average availability of food. This decrease is shown in the following tabulation:

<u>Food Balance</u>	<u>Index of Calories per Capita per Day*</u>
1931-37 average	100
1952-53	84
1953-54	84
1954-55	80

Concerned by the low level of the availability of food, the Chinese Communists, without marked success, have exerted efforts to increase production of food. The government has inaugurated a program to transfer food between surplus and deficit regions, and

\* Because of the number of quantitative estimates required in the preparation of each food balance, some of which are based on very little information, the acceptance of the quantitative results shown in the food balances is unwarranted. For example, it is probable that the indexes of the postwar period overstate the actual fall in the availability of food per capita. The general trend and the relationship between the various periods, however, are believed to be correct.

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this action has been accompanied by rationing restrictions affecting a considerable segment of the population. In spite of this effort, pre-harvest hunger in certain localities has been common each spring in Communist China. Even in 1953, after the comparatively good harvests of 1952, preharvest hunger was relatively widespread. This condition has developed into actual famine in some limited areas. It is probable that, if the food balance in 1954-55 reflects the true situation in that year, the spring of 1955 was a particularly critical period for those living in the deficit areas.

## 2. Trade.

Before World War II, China was a net importer of grains and a heavy exporter of oilseeds and their various oils.\* On a net basis, China exported about 25 calories per capita per day, roughly 1 percent of the average calories per capita per day of the average diet.\*\*

During the period of Chinese Communist control, the government has tried to reduce to the smallest practical extent imports of foodstuffs and to expand exports of agricultural commodities for the purpose of obtaining foreign exchange for imports of capital goods.

As a result of this policy, the Chinese Communists have increased total exports of food, both calories per capita per day and percentage of total calories available to the population. Exports of agricultural commodities by China, 1931-37 average, 1953-54, and 1954-55, are shown in Table 9.\*\*\*

It is clear that, in a relative sense, Chinese Communist exports of food in terms of the total availabilities are not large. In a country in which absolute availability is at a low level, however, exports of even small magnitude have had adverse psychological effects. The Chinese Communist propaganda has tried to reduce resentment among consumers by pointing out that exports of certain items are only a small part of total production of those items.

Although the estimate of net exports in 1954-55 by Communist China must necessarily be a preliminary approximation subject

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\* This statement includes Manchuria.

\*\* See Appendix A, Table 36, p.

\*\*\* Table 9 follows on p. 29.

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Table 9

Exports of Agricultural Commodities by China  
1931-37 Average, 1953-54, and 1954-55

<u>Period</u>	<u>Calories per Capita per Day</u>	<u>Percentage of Total Available Calories per Capita per Day</u>
1931-37 average	24	1.2
1953-54	53	3.1
1954-55 <u>a/</u>	40	2.4

a. Preliminary estimate.

to revision, it is compatible with other evidence. Both 1952 and 1953 were years of normal, or better-than-normal, food production, but in 1954, production was adversely affected by weather conditions. During the 1954-55 consumption year, moreover, there was some reduction in the shipments of grain which had been going to North Korea as part of the plan of Chinese Communist aid to that country. This reduction would be expected, as North Korea probably increased its production of grain after the end of the Korean hostilities. It is probably true that 1954-55 was a year of leveling out in the rate of increase of Chinese Communist exports of foodstuffs that had held from 1949-50 through 1953-54.

3. Stocks.

The status of food reserves in Communist China continues to be a subject on which data are insufficient to support a quantitative estimate. For the purposes of estimating food balances, consequently, the assumption has been made that from year to year movements into and out of stocks have been about equal. There are reasons to believe that a state reserve of foodstuffs is programmed by the government of Communist China. Both the general level of food availability and the extent of the export program, however, indicate that

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withdrawals for a large reserve have been unlikely.\* It is possible that some reserves were laid by in 1952, which was an excellent production year, and in 1953 these reserves may have been maintained and even increased. It is difficult to see how these reserves, even if they exist, could be maintained in 1955. Assuming that such reserves existed and have been maintained, they would be reflected in the availabilities of calories per capita per day -- calories per capita per day for 1953-54 would be somewhat lower than are shown in the food balances for that year. If these reserves were used, in part or in whole, to meet the emergency of the flood disaster in 1954, then the food balance for 1954-55 should show greater availability of calories per capita per day than it actually does. Although it is possible that reserves of food were used at that time, this hypothesis is not supported by the food balances for those years.\*\*

#### B. Pattern of Food Consumption.

The level of living in any country, insofar as foodstuffs are concerned, is determined roughly by the "starchy staple ratio."\*\*\* This ratio has always been high in China -- more than 75 percent for the periods shown in the food balances. The starchy staple ratio has shown considerable stability, and there has been no significant change under the Communist regime. The percentage contribution of selected foods to total caloric consumption in China, 1931-37 average, 1953-54, and 1954-55, are shown in Table 10.\*\*\*\*

\* There is no general agreement with this opinion. Indirect evidence has suggested to some analysts that perhaps as much as 7 million tons of grain were withdrawn for reserves in 1952.

\*\* To give some idea of possible magnitude, the following data are presented: 5 million tons of grain (wheat and rice), on the basis of 575 million population would, on the average, afford between 60 and 70 calories per capita per day. Thus the calories available per capita per day in 1954-55, as shown in the food balance for this year, could be raised 60 to 70 calories if (1) the government had reserves of 5 million tons of grain, and (2) released these reserves in the 1954-55 consumption year.

\*\*\* The starchy staple ratio is the ratio of calories from grain products and potatoes to total calories consumed. In general, the more wealthy a country, the lower will be this ratio. Thus, for the US, this ratio was about 42 percent in the 1909-13 period, but by the 1949-50 consumption year the ratio had fallen to about 27 percent. 7/  
\*\*\*\* Table 10 follows on p. 31.

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Table 10

Percentage Contribution of Selected Foods  
to Total Caloric Consumption in China  
1931-37 Average, 1953-54, and 1954-55

Food	Percent		
	1931-37 Average	1953-54	1954-55
Wheat	16.4	15.6	18.2
Other grains	23.8	23.0	25.0
Rice	35.3	35.4 a/	30.6
Potatoes	3.3	4.8	4.5
Total basic foods	<u>78.8</u>	<u>78.8</u>	<u>78.3</u>
Oilseeds	5.0	5.7	5.3
Meat, eggs, and fish b/	3.8	4.0	4.2
Fats and oils	5.5	5.0	5.4
Other	6.9	6.5	6.8
Total quality foods	<u>21.2</u>	<u>21.2</u>	<u>21.7</u>
Total calories	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>

a. Raised 0.1 percent to balance.

b. Excludes fat and fat cuts of pork, which are listed with fats and oils.

Table 10 gives no indication of a trend in the composition of the diet. Such a trend can best be shown by a comparison of the actual calories furnished by the various foods. Trends in the consumption of selected foods in Communist China in 1953-54 and 1954-55 are shown in Table 11.\* Table 11 indicates that trends or shifts in the consumption of individual foods probably are not significant. The dominant fact is the general decrease in available calories, reflected in consumption of all foods except potatoes. The fact that the contribution of potatoes to total calories has increased while those of other foods have fallen may reflect some deterioration in the quality of the diet.

\* Table 11 follows on p. 32. - 31 -

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Table 11

Trends in Consumption of Selected Foods in Communist China  
1953-54 and 1954-55

Food	Changes in Calories from 1931-37			
	1953-54		1954-55	
	1931-37 Average (Total Calories)	Total Calories	Net Change	Total Calories
Wheat	338	273	- 65	305
Other grains	491	402	- 89	419
Rice	731	618	-113	512
Potatoes	68	83	+ 15	75
Total basic foods	1,628	1,376	-252	1,311
Oilseeds	104	100	- 4	89
Meat, eggs, and fish a/	78	69	- 9	70
Fats and oils	114	87	- 27	90
Other	143	113	- 30	114
Total quality foods	432	362	- 70	363
Total calories	2,067	1,742	-322	1,674

a. Excludes fat and fat cuts of pork, which are listed with fats and oils.

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C. Food Requirements.

Requirements for food in Communist China are difficult to define because they are relative and may be defined in either an economic (demand) or a physical (necessary levels of energy intake) context. It is known that, although preharvest hunger occurs in Communist China, the population continues to expand. In an absolute physical sense, then, there must be enough food to go around and, over given periods of time, to take care of greater absolute numbers. On the basis of present nutritional data, however, no one really knows just what figure for the average number of calories per day represents the minimum requirement. The only possible conclusion is that increasing population, demands for industrialization of the economy, and demands for exports of food products increase food requirements at a rate that probably is slightly greater than the rate of increase in production. This conclusion is supported by evidence of the deterioration of the average diet, as shown in the food balances, and of the apparent increase in the incidence of preharvest hunger.

D. Capabilities, Vulnerabilities, and Intentions.

1. Capabilities.

The lowered caloric intake per capita in Communist China during the 1954-55 consumption year probably has not been sufficient to deter the government from possible military action. Given favorable weather conditions, Chinese Communist agriculture should be able to increase production considerably during the next few years. Stiffening of the procurement mechanism and improvement in the allocation of foodstuffs to non-self-suppliers should contribute to greater nonfarm labor productivity and should increase the capability of agriculture to support a growing industrial economy.

2. Vulnerabilities.

The food level of the average citizen of Communist China is such that in the event of hostilities the interdiction of internal food movements would result in local shortages and probably in local famine. This does not mean, however, that such occurrences would affect the capability to wage war. Chinese Communist control over the national supply of food is such that the government can divert

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food to military end uses at the expense of the population. The ultimate effects of a policy of ignoring population distress over food shortages, however, are unknown. The apparently low level of strategic stockpiles, coupled with the relatively low average of food availability in Communist China, indicates that a disastrous crop year through either natural or man-created causes might represent a considerable setback to the capabilities of the Chinese Communists.

The interdiction of food imports by hostile action, either by economic sanctions or by naval blockade, will not affect the food position adversely. To the extent that Western action might decrease exports of grain and oilseeds, it would tend to raise levels of food availability in Communist China.

### 3. Intentions.

In the Chinese Communist food balances in this report, there are no definable indications of intentions. Although the government has programmed stockpiles of grain for a number of eventualities, there is no evidence of extreme stockpiling efforts that might indicate that the Chinese Communists are planning major military activity.

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APPENDIX A

STATISTICAL TABLES

The statistical tables (Tables 12 through 38) in this appendix show food balances for the USSR, the European Satellites, and Communist China. For each country, three food balances are given -- for a prewar period and for the 1953-54 and 1954-55 consumption years. Except for revisions of some estimates, the food balances for the prewar periods and the 1953-54 consumption year are essentially the same as those given in source 8/. The methodology for the revised estimates in these balances and for the estimates in the balances in the 1954-55 consumption year is explained either in the footnotes to the individual tables or in Appendix B of this report.

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Table 12

Estimated Supply and Utilization of Food in the USSR 1939  
Consumption Year 1938-39 1/3  
(Population: 192,300,000)

Commodity	Thousand Metric Tons (Except Where Noted)												
	1	2	3	4	5	6	7	8	9	10	11	12	13
	Supply								Utilization				
	Production	Net Trade (+Import) (-Export)	Change in Stocks 2/	Total Supply	Seed and Waste	Feed	Industrial	Total	Total Gross	Extraction Rate (Percent)	Total Net Food	Per Capita (Net) Kilograms per Year	Calories per Day
<b>Grains</b>													
Wheat	33,100	- 870	+ 1,000	31,230	7,100	570	400	8,070	23,160	85	19,686	102.4	982
Rye	19,300	- 60	+ 400	19,640	4,000		400	4,400	14,440	85	12,274	63.8	596
Subtotal	52,400	- 930	+ 1,400	50,870	11,100	570	800	12,470	37,600		31,960	166.2	1,578
Barley	8,900	- 700		8,200	1,600	5,600	500	7,700	500	65	395	1.7	15
Oats	15,700	- 60		15,640	3,700	11,720		15,420	200	45	90	0.5	5
Corn	4,000	- 290		3,710	300	1,610	1,000	2,910	800	93	744	3.9	38
Other 2/	7,600		+ 500	7,100	1,500	500		2,000	5,100	90	4,590	23.9	223
Subtotal	36,200	- 1,070	+ 500	34,630	7,100	19,430	1,300	28,030	6,600		5,749	30.0	281
Total grains	88,600	- 1,000	+ 1,900	89,500	18,200	20,000	2,300	40,500	44,200		37,709	196.2	1,859
Sugar (refined)	2,287	- 50		2,137					2,137		2,137	11.2	119
Potatoes	73,938			73,938	23,000	21,000	1,300	45,300	28,538		28,538	148.4	285
<b>Meat</b>													
Beef and veal	1,422			1,422					1,422		1,422	7.4	29
Pork	1,614			1,614					1,614		1,614	8.4	69
Mutton and goat	429			429					429		429	2.2	6
Total meat	3,465			3,465					3,465		3,465	18.0	104
<b>Fats and oils</b>													
Butter	250	- 5		245					245		245	1.3	26
Slaughter fats	515	- 20		495					495		495	2.2	47
Vegetable oils 2/	858			858					858		858	2.8	68
Mineral oils	3			3					3		3		
Vegetable oilseeds 2/	5,608			5,608	997	100	4,061	5,158	450		450	2.3	18
Total fats and oils	7,234	- 25		7,209	997	100	4,455	5,552	1,657		1,657	8.6	152
Fish (landed weight)	1,600			1,600					1,600		1,600	6.0	8
Milk (whole)	28,400			28,400	448	2,600		2,600	25,800		25,800	134.2	221
Total calories per day													2,755

a. Does not include alcoholic beverages.  
b. The consumption year 1 July 1938 through 30 June 1939 was selected because it is the last prewar year for which detailed statistics on acreage are available and for which estimates of production represent more or less the normal prewar situation.  
c. The plus sign (+) denotes addition to state reserves and deduction from total supply, and the minus sign (-) denotes deduction from state reserves and addition to total supply.  
d. Includes rice and pulses.  
e. Includes nonfood as well as edible oils.

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Table 13

Estimated Supply and Utilization of Food in the USSR a/  
Consumption Year 1953-54  
(Population: 214,200,000)

Commodity	Thousand Metric Tons (Except Where Noted)												
	Supply					Nonfood Uses				Utilization			
	Production	Net Trade (Import) (-Export)	Change in Stocks	Total Supply	Seed and Waste	Feed		Industrial	Total	Total Gross	Extraction Rate (Percent)	Food Availabilities	
						Feed	Industrial					Total Net Food	Per Capita (Net) Kilograms Per Year Calories Per Day
1	2	3	4	5	6	7	8	9	10	11	12	13	
<b>Grains</b>													
Wheat	36,200	-1,600	-1,600	36,200	8,000	1,400	500	9,900	26,300	22,355	85	104.4	1,001
Rye	18,700	-200	-200	18,700	3,800	100	500	4,400	14,300	12,155	85	56.7	530
Subtotal	54,900	-1,800	-1,800	54,900	11,800	1,500	1,000	14,400	40,600	34,510		161.1	1,531
Barley	6,500	-700	-700	5,800	1,200	3,600	700	5,500	300	195	65	0.9	8
Oats	11,700	-100	-100	11,600	3,600	8,400	200	12,400	200	80	1.5	0.4	4
Corn	3,800	-600	-600	3,200	300	1,900	1,300	3,500	900	877	93	3.9	38
Other b/	6,100	-100	-100	6,000	1,500	600		2,100	3,900	3,510	90	16.4	153
Subtotal	28,100	-200	-200	27,800	6,000	14,500	2,000	22,500	5,100	4,632		21.6	203
Total grains	83,000	-2,700	-2,700	80,700	17,800	16,000	3,000	36,800	45,000	39,142		182.7	1,734
Sugar (refined)	3,000	+200	+300	2,900				2,900	2,900	2,900		13.5	143
Potatoes	66,400	+200		66,600	21,200	9,500	1,800	32,500	34,100	34,100		159.2	305
Meat													
Beef and veal	1,400	+110		1,510				1,510	1,510	1,510		7.0	28
Pork	1,360	+110		1,470				1,470	1,470	1,470		6.9	57
Mutton and goat	665	+60		725				725	725	725		3.4	10
Total meat	3,425	+280		3,705				3,705	3,705	3,705		17.3	92
<b>Fats and oils</b>													
Butter	400	-20	+10	370				370	370	370		1.7	33
Slaughter fats	475	+5	+14	456				456	456	456		2.3	41
Vegetable oils c/	1,246	+315	+25	1,536				1,536	1,536	1,536		4.2	102
Marine oils	41	+63	+1	103				103	103	103		0.4	10
Vegetable oilseeds g/	5,989	+987		6,916	817	75	5,646	6,538	378	378		1.8	14
Total fats and oils	8,051	+1,340	+50	9,391	817	75	5,646	7,238	2,143	2,143		10.0	200
Fish (landed weight)	2,450	+60		2,510	690	2,000		590	1,820	1,820		8.5	12
Milk (whole)	18,500			18,500				2,000	16,500	16,500		77.0	127
Total calories per day													2,616

a. Does not include alcoholic beverages.  
b. Includes rice and pulses.  
c. Includes nonfood as well as edible oils.

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Table 14  
Estimated Supply and Utilization of Food in the USSR 5/  
Consumption Year 1954-55  
(Population: 217,800,000)

Thousand Metric Tons (Except Where Noted)													
Commodity													
	Supply			Nonfood Uses				Utilization			Food Availabilities		
	Production	Net Trade (+Import) (-Export)	Change in Stocks	Total Supply	Seed and Waste	Feed	Industrial	Total	Total Gross	Extraction Rate (Percent)	Total Net Food	Kilograms Per Year	Calories Per Day
Grains	36,400	- 1,300	- 2,000	37,100	9,500	700	600	10,900	26,200	85	22,270	102.2	980
Wheat	20,200	- 200		20,000	3,800	200	600	4,600	15,400	85	13,090	60.1	561
Rye	56,600	- 1,500	- 2,000	57,100	13,400	900	1,200	15,500	41,600		35,360	162.3	1,511
Subtotal	7,100	- 350		6,750	1,200	4,200	800	6,200	550	65	358	1.6	15
Barley	12,700	- 50		12,650	2,800	9,600		12,400	250	45	112	0.5	5
Oats	3,600	- 50		3,550	800	1,400	1,300	3,500	250	93	232	1.1	11
Corn	6,900			6,900	1,800	600		2,400	4,400	90	3,960	18.2	170
Other b/	30,400	- 150		29,950	5,500	15,800	2,100	24,500	5,150		4,662	21.4	201
Subtotal	87,000	- 1,050	- 2,000	87,050	20,000	16,700	3,300	40,800	47,050		40,022	181.7	1,702
Total grains	2,300	+ 800		3,100				3,100	3,100		3,100	14.2	151
Sugar (refined)	67,200	+ 200		67,400	21,500	9,600	2,200	33,400	34,000		34,000	156.1	299
Potatoes	1,370	+ 100		1,470					1,470		1,470	6.7	27
Meat	1,430	+ 50		1,480					1,480		1,480	6.8	56
Beef and veal	675	+ 50		725					725		725	3.3	10
Pork		+ 50											
Mutton and goat		+ 200											
Total meat	3,475	+ 200		3,675					3,675		3,675	16.8	23
Fats and oils	410	+ 20		430					430		430	2.0	39
Butter	475	+ 300		1,680			60	60	415		415	1.9	41
Slaughter fats	1,380	+ 60		1,440			650	650	1,030		1,030	4.7	114
Vegetable oils c/	41	+ 1,400		1,441			12	12	89		89	0.4	10
Marine oils	6,000			7,400	850		6,200	7,050	350		350	1.6	12
Vegetable oilseeds s/	9,306	+ 1,700		10,006	950		6,922	7,172	2,314		2,314	10.6	216
Total fats and oils	2,800	+ 100		2,900	810		810	2,090	9.6		2,090	9.6	13
Fish (landed weight)	19,000			19,000		2,000	2,000	17,000	70.1		17,000	70.1	128
Milk (whole)													
Total calories per day													2,642

a. Does not include alcoholic beverages.  
b. Includes rice and pulses.  
c. Includes nonfood as well as edible oils.

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Table 15

Estimated Supply and Utilization of Food in Albania a/  
Consumption Year 1933-37 Average  
(Population: 1,000,000)

Commodity	Thousand Metric Tons (Except Where Noted)												
	1	2	3	4	5	6	7	8	9	10	11	12	13
	Supply						Nonfood Uses			Utilization			
	Production	Net Trade (+Import) (-Export)	Change in Stocks	Total Supply	Seed and Waste	Feed	Industrial	Total	Total Group	Extraction Rate (Percent)	Total Food	Per Capita Kilograms Per Year	Calories Per Day
Grains													
Wheat	45.0	+ 1.0		46.0	8.4	0.5		0.9	37.1	90	33.4	33.4	380
Rye	4.0			4.0	0.7	Negligible		0.7	3.3	90	3.0	3.0	26
Subtotal	49.0	+ 1.0		50.0	9.1	0.5		1.6	40.4		36.4	36.4	340
Barley	6.0			6.0	1.0	5.0		6.0					
Oats	10.0			10.0	1.8	8.2		10.0					
Corn	127.0	+ 11.0		138.0	7.3	12.7		20.0	118.0	90	106.2	106.2	1,047
Other (except rice)													
Subtotal	143.0	+ 11.0		154.0	10.1	25.9		36.0	118.0		106.2	106.2	1,047
Rice		+ 3.2		3.2					3.2		3.2	3.2	32
Total grains	192.0	+ 15.2		207.2	19.2	26.4		45.6	161.6		145.8	145.8	1,427
Sugar (refined)		+ 4.4		4.4					4.4		4.4	4.4	47
Potatoes								0.7			1.3	1.3	2
Meat	2.0			2.0	0.7								
Beef and veal	3.9			3.9					3.9		3.9	3.9	15
Pork	0.7			0.7					0.7		0.7	0.7	6
Mutton and goat	7.9			7.9					7.9		7.9	7.9	23
Total meat	12.5			12.5					12.5		12.5	12.5	44
Fats and oils													
Butter	1.3			1.3					1.3		1.3	1.3	26
Slaughter fats	0.7			0.7					0.7		0.7	0.7	15
Vegetable oils	2.3	+ 6.0		8.3			0.2	0.2	8.1		8.1	8.1	196
Total fats and oils	4.3	+ 6.0		10.3			0.2	0.2	10.1		10.1	10.1	247
Total calories per day													1,757

a. Does not include alcoholic beverages.

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Table 16

Estimated Supply and Utilization of Food in Albania a/  
Consumption Year 1953-54  
(Population: 1,300,000)

Commodity	Thousand Metric Tons (Except Where Noted)												
	1	2	3	4	5	6	7	8	9	10	11	12	13
	Supply						Utilization						
	Production	Net Trade (+Import -Export)	Change in Stocks	Total Supply	Seed and Hedge	Feed	Industrial	Total Gross	Extraction Rate (Percent)	Total Net Food	Per Capita Kilograms Per Year	Calories Per Day	
Grains													
Wheat	103.0	+ 80.5		183.5	20.7	1.0		21.7	161.8	85	137.5	105.8	1,015
Rye	3.3			3.3	0.6	Negligible		0.8	2.5	85	2.1	1.6	15
Subtotal	106.3	+ 80.5		186.8	21.5	1.0		22.5	164.3		139.6	107.4	1,030
Barley	8.5			8.5	2.2	6.3		8.5					
Oats	9.5			9.5	2.2	7.3		9.5					
Corn	125.0	+ 5.0		130.0	7.7	52.9		60.6	69.4	85	59.0	45.4	448
Other (except rice)													
Subtotal	143.0			148.0	12.1	56.5		78.6	69.4		59.0	45.4	448
Rice	4.0			4.0	0.5			0.5	3.5	65	2.3	1.8	18
Total grains	253.3	+ 85.5		338.8	34.1	67.5		101.6	237.2		200.9	154.6	1,496
Sugar (refined)	5.9			5.9				5.9			5.9	4.5	48
Potatoes	3.6			3.6	2.0			2.0	1.6		1.6	1.2	2
Meat													
Beef and veal	3.7	- 0.1	Negligible	3.6				3.6			3.6	2.8	11
Pork	2.0			2.0				2.0			2.0	1.5	12
Mutton and goat	7.8	- 0.1		7.7				7.7			7.7	5.9	17
Total meat	13.5	- 0.2		13.3				13.3			13.3	10.2	40
Fats and oils													
Butter	0.9			0.9				0.9			0.9	0.7	14
Slaughter fats	1.0	+ 0.5		1.5			0.3	0.3			1.2	0.9	19
Vegetable oils	5.0	+ 2.0		7.0			0.2	0.2			6.8	5.2	126
Total fats and oils	6.9	+ 2.5		9.4			0.5	0.5			8.2	6.8	132
Total calories per day													1,475

a. 131/ Does not include alcoholic beverages.

Table 17

Estimated Supply and Utilization of Food in Albania a/  
Consumption Year 1954-55  
(Population: 1,322,000) b/

Commodity	Thousand Metric Tons (Except Where Noted)												
	1	2	3	4	5	6	7	8	9	10	11	12	13
	Supply				Nonfood Uses				Utilization				
	Production	Net Trade (+Import) (-Export)	Change in Stocks	Total Supply	Seed and Waste	Feed	Industrial	Total	Total Gross	Extraction Rate (Percent)	Total Food	Per Capita Kilograms Per Year	Calories Per Day
Grains													
Wheat	112.0	+ 85.0		197.0	22.8	1.0		23.8	173.2	85	147.2	111.3	1,067
Rye	3.8			3.8	0.8			0.8	3.0	85	2.5	1.9	18
Subtotal	115.8	+ 85.0		200.8	23.6	1.0		24.6	176.2		149.7	113.2	1,085
Barley	8.5			8.5	2.0	6.5		8.5					
Oats	10.0			10.0	2.3	7.7		10.0					
Corn	120.0	+ 10.0		130.0	7.5	60.8		68.3	61.7	85	52.4	39.6	391
Other (except rice)													
Subtotal	138.5	+ 10.0		148.5	11.8	75.0		86.8	61.7		52.4	39.6	391
Rice	6.7			6.7	0.7			0.7	6.0	65	3.9	3.0	30
Total grains	261.0	+ 95.0		356.0	36.1	76.0		112.1	243.9		206.0	155.8	1,506
Sugar (refined)	5.0	+ 2.0		7.0					7.0		7.0	5.3	56
Potatoes	4.0			4.0	1.7			1.7	2.3		2.3	1.7	3
Meat													
Beef and veal	3.8	- 0.1		3.7					3.7		3.7	2.8	11
Pork	3.0			3.0					3.0		3.0	2.3	19
Mutton and goat	8.4	- 0.1		8.3					8.3		8.3	6.3	18
Total meat	15.2	- 0.2		15.0					15.0		15.0	11.4	48
Fats and oils													
Butter	0.9			0.9					0.9		0.9	0.7	14
Slaughter fats	2.0			2.0					1.7		1.7	1.3	28
Vegetable oils	3.0	+ 2.0		5.0			0.3	0.3	4.8		4.8	3.6	87
Total fats and oils	5.9	+ 2.0		7.9			0.3	0.3	7.4		7.4	5.6	122
Total calories per day													1,742

a. Does not include alcoholic beverages.

b. As of 1 January 1955.

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Table 18  
Estimated Supply and Utilization of Food in Bulgaria a/  
Consumption Year 1933-37 Average  
(Population: 6,550,000)

Commodity	Thousand Metric Tons (Except Where Noted)												
	1	2	3	4	5	6	7	8	9	10	11	12	13
	Supply				Nonfood Uses				Utilization				
	Production	Net Trade (+Import) (-Export)	Change In Stocks	Total Supply	Seed and Waste	Feed	Industrial	Total	Total Gross	Extraction Rate (Percent)	Total Net Food	Per Capita (Net) Kilograms Per Year	Calories Per Day
<b>Grains</b>													
Wheat	1,555	- 120		1,435	275	25	25	325	1,110	80	828	125.6	1,300
Rye	280	- 15		265	55	10	10	75	190	60	130	23.2	217
Subtotal	1,835	- 135		1,700	330	35	35	400	1,300		1,040	159.8	1,517
Barley	348	- 45		303	50	225	15	290	13	65	8	1.2	11
Oats	133	- 3		130	25	105		130	275	95	234	35.7	355
Corn	1,012	- 102		910	60	590	25	635	110	90	63	13.4	125
Other (except rice)	147	- 2		145	30	5		35	110				
Subtotal	1,640	- 152		1,488	165	805	40	1,090	320		130	50.3	591
Rice	11	- 1		10	1			1	9		9	1.4	14
Total grains	2,486	- 288		2,198	496	860	75	1,491	1,707		1,179	210.5	2,022
Sugar (refined)	25	- 1		24					24		24	3.7	39
Potatoes	113	- 1		112	35	10		45	67		67	10.2	20
Meat													
Beef and veal	47	- 3		44					44		44	6.7	27
Pork	58	- 2		56					56		56	8.5	70
Mutton and goat	48			48					48		48	7.3	21
Total meat	153	- 5		148					148		148	22.5	118
Fats and oils													
Butter	11	- 1		10					10		10	1.7	23
Slaughter fats	29	- 10		19					19		19	3.4	61
Vegetable oils	40	- 11		29					29		29	3.4	92
Total fats and oils	80	- 22		58					58		58	8.5	196
Fish (loaded weight)	3	+ 1		4					4		4	0.6	1
Milk (whole)	454			454					454		454	17.1	20
Total calories per day													2,424

a. Does not include alcoholic beverages.

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Table 19

Estimated Supply and Utilization of Food in Bulgaria 1953-54  
Consumption Year 1953-54  
(Population: 7,424,000)

Commodity	Thousand Metric Tons (Except Where Noted)												
	1	2	3	4	5	6	7	8	9	10	11	12	13
	Supply				Nonfood Uses				Utilization				
	Production	Net Trade (Import - Export)	Change in Stocks	Total Supply	Seed and Waste	Feed	Industrial	Total	Total Gross	Extraction Rate (Percent)	Total Net Food	Per Capita (Net) Kilograms Per Year	Calories Per Day
Grains													
Wheat	1,905	- 231		1,674	320	30	30	350	1,294	85	1,100	148.2	1,421
Rye	292	- 26		266	50	9	9	68	158	85	134	18.0	168
Subtotal	2,197	- 257		1,940	370	39	39	448	1,452		1,234	166.2	1,589
Barley	401	- 23		378	56	295	15	366	12	65	8	1.1	10
Oats	124	- 27		97	27	97	11	124	331	85	281	37.8	376
Corn	744	- 52		692	54	296	11	361	47	80	38	5.1	48
Other (except rice)	60	- 11		49	11	2		60	13		47		
Subtotal	1,329	- 72		1,257	148	690	26	864	390		327	44.0	434
Rice	24			24	3			3	21	65	14	1.9	19
Total grains	3,520	- 329		3,191	521	729	65	1,315	1,863		1,575	212.1	2,042
Sugar (refined)	63	- 5	+ 20	38					38		38	5.1	54
Potatoes	90			90	30	9		39	51		51	6.9	13
Meat													
Beef and veal	32	- 5		27					27		27	3.6	14
Pork	41	- 5		36					36		36	4.8	39
Mutton and goat	28	- 5		23					23		23	3.1	9
Total meat	101	- 15		86					86		86	11.5	62
Fats and oils													
Butter	9			9					9		9	1.2	24
Slaughter fats	12			12			3		9		9	1.2	26
Vegetable oils	35 b/			35			7		28		28	3.8	92
Total fats and oils	56			56			10		46		46	6.2	142
Fish (landed weight)	5	Negligible		5	Negligible	90			5		5	0.7	1
Milk (whole)	410			410			198 c/	288	122		122	16.4	27
Total calories per day													2,341

a. Does not include alcoholic beverages.

b. Includes 2,000 metric tons of oil consumed directly in 10,000 metric tons of oilseeds.

c. 22 percent of production.

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Table 20

Estimated Supply and Utilization of Food in Bulgaria <sup>a</sup>/  
Consumption Years 1954-55  
(Population: 7,522,000) <sup>b</sup>/  
Thousand Metric Tons (Except Where Noted)

Commodity	Thousand Metric Tons (Except Where Noted)												
	1	2	3	4	5	6	7	8	9	10	11	12	13
	Supply				Nonfood Uses				Utilization				
	Production	Net Trade (+Import) (-Export)	Change in Stocks	Total Supply	Seed and Waste	Feed	Industrial	Total	Total Gross	Extraction Rate (Percent)	Total Net Food	Per Capita (Net) Kilograms Per Year	Calories Per Day
Grains													
Wheat	2,000	- 187	+ 50	1,763	322	30	30	382	1,381	85	1,174	156.1	1,497
Rye	264	- 30		234	50	14	9	73	161	85	137	18.2	170
Subtotal	2,264	- 217	+ 50	1,097	372	44	32	455	1,542		1,311	174.3	1,667
Barley	419	- 10		409	57	295	15	367	42	65	27	3.6	33
Oats	130			130	27	103		130	374	85	318	42.3	421
Corn	838	- 70		738	56	297	11	364	53	86	42	5.6	52
Other (except rice)	65			65	12			12	12				
Subtotal	1,422	- 80		1,342	152	695	26	873	469		387	51.5	506
Rice	25			25	3			3	22	65	14	1.9	19
Total grains	3,711	- 297	+ 50	3,464	527	739	65	1,331	2,033		1,728	227.7	2,502
Sugar (refined)	50			50					50		50	6.6	70
Potatoes	85			85	29	9		38	47		47	6.2	12
Meat													
Beef and veal	32			32					32		32	4.3	17
Pork	49	- 11		38					38		38	5.1	42
Mutton and goat	33	- 5		28					28		28	3.7	11
Total meat	114	- 16		98					98		98	13.1	70
Fats and oils													
Butter	9			9					9		9	1.2	24
Slaughter fats	14			14					14		14	1.5	32
Vegetable oils	32 <sup>c</sup> / <sub>5</sub>	- 2		30			3	7	23		23	3.1	75
Total fats and oils	55			53			10	10	43		43	5.8	131
Fish (landed weight)	5			5					5		5	0.7	1
Milk (whole)	438			438		96	198	294	144		144	19.1	31
Total calories per day													2,507

a. Does not include alcoholic beverages.

b. As of 1 January 1955.

c. Includes 2,000 metric tons of oil consumed directly in 10,000 metric tons of oilseeds.

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Table 21  
Estimated Supply and Utilization of Food in Czechoslovakia a/  
Consumption Year 1933-37 Average  
(Population: 15,100,000)

Commodity	Production	Supply					Nonfood Uses					Utilization					Food Availabilities		
		Net Trade		Change in Stocks	Total Supply	Seed and Waste	Feed	Industrial	Total	Total Gross	Extraction Rate (Percent)	Total Net Food	Kilograms Per Year	Calories Per Day	11	12	13		
		(+Import)	(-Export)																
Grains																			
Wheat	1,589	- 20			1,569	206	196	10	412	1,157	76.3	893	58.5	583					
Rye	1,634	+ 36			1,672	195	85	20	300	1,372	70.0	960	63.6	608					
Subtotal	3,223	+ 16			3,241	401	281	30	712	2,529		1,853	122.1	1,191					
Barley	1,100	- 50			1,050	130	995	280	1,005	45	50.0	27	1.8	16					
Oats	1,200	- 20			1,180	155	1,005	20	1,160	20	60.0	12	0.8	8					
Corn	270	+ 125			395	14	321	20	355	40	80.0	32	2.1	21					
Other (except rice)	13				13	1	2		3	10	70.0	7	0.5	5					
Subtotal	2,591	+ 55			2,638	300	1,923	300	2,323	115		78	5.2	50					
Rice		+ 61			61		1		1	60		60	4.0	39					
Total grains	5,806	+ 114			5,920	701	2,205	310	3,226	2,704		1,981	111.3	1,280					
Sugar (refined)	567	- 217			350		12	18	30	320		320	21.2	225					
Potatoes	9,700				9,700	2,242	4,658	600	7,500	2,200		2,200	145.7	279					
Meat																			
Beef and veal	204	+ 15			204				204	204		204	13.5	54					
Pork	179				194				194	194		194	12.8	105					
Mutton and goat	5	Negligible			5				5	5		5	0.3	1					
Total meat	388	+ 15			403				403	403		403	26.6	160					
Fats and oils																			
Butter	74				74														
Slaughter fats	72	+ 30			102			6	6	74		74	4.9	96					
Vegetable oils	9	+ 91			100			30	30	70		96	6.4	137					
Whale oil		+ 16			16			10	10	6		70	4.6	111					
Total fats and oils	155	+ 137			292			46	46	246		246	16.3	354					
Fish (landed weight)	3	+ 18			21					21		21	1.4	2					
Milk (whole)	4,500				4,500														
Total calories per day							450	2,150	2,600	1,900		1,900	125.8	2,614					

a. Does not include alcoholic beverages.



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Table 23

Estimated Supply and Utilization of Food in Czechoslovakia <sup>a/</sup>  
Consumption Year 1954-55  
(Population: 12,951,000)

Commodity	Thousand Metric Tons (Except Where Noted)												
	1	2	3	4	5	6	7	8	9	10	11	12	13
	Supply				Nonfood Uses				Utilization				
	Production	Net Trade (Import) (Export)	Change in Stocks	Total Supply	Seed and Waste	Feed	Industrial	Total	Total Gross	Extraction Rate (Percent)	Total Food	Per Capita Kilograms Per Year	Calories Per Day
<b>Cereals</b>													
Wheat	1,295	+ 726		2,021	244	100	10	354	1,667	85	1,417	109.4	1,049
Rye	1,071			1,071	202	514	20	736	335	85	285	22.0	206
Subtotal	2,366	+ 726		3,092	446	614	30	2,090	2,002		1,702	131.4	1,255
Barley	1,054	+ 200		1,254	177	773	282	1,232	22	60	13	1.0	9
Oats	1,008	+ 50		1,058	171	873		1,044	12	60	7	0.5	5
Corn	236	+ 236		236	236		5	236	30	80	24	1.9	18
Other (except rice)					28	173		201	64		44	3.4	32
Subtotal	2,298	+ 496		2,794	376	2,057	287	2,720	260		25	1.9	19
Rice		+ 25		25					25				
Total grains	4,664	+ 1,237		5,901	822	2,673	317	3,810	2,091		1,771	136.7	1,306
Sugar (refined)	578	- 183	+ 135	260					260		260	20.1	213
Potatoes	5,100			5,100	2,025	1,215	306	3,546	1,554		1,554	120.0	230
<b>Meat</b>													
Beef and veal	120	+ 20		140					140		140	10.8	43
Pork	219	+ 15		234					234		234	18.1	149
Lamb and goat	8			8					8		8	0.6	2
Total meat	347	+ 35		382					382		382	29.5	194
<b>Fats and oils</b>													
Butter	63	+ 4		67					67		67	5.2	102
Slaughter fats	31			31			10	10	41		41	3.2	68
Vegetable oils	52	+ 49		101			35	35	66		66	5.1	124
Whale oil		+ 5		5					5		5	0.4	10
Vegetable oilseeds													
Total fats and oils	146	+ 58		204			45	45	173		173	13.9	304
Fish (landed weight)	5	+ 50		55					55		55	4.2	6
Milk (whole)	3,574			3,574		465	1,449	1,914	1,660		1,660	128.2	218
Total calories per day												2,477	2,477

a. Does not include alcoholic beverages.

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Table 24  
Estimated Supply and Utilization of Food in East Germany a/  
Consumption Year 1935-38 Average  
(Population: 16,000,000)

Commodity	Thousand Metric Tons (Except Where Noted)												
	1	2	3	4	5	6	7	8	9	10	11	12	13
	Supply						Nonfood Uses			Utilization			
	Production	Net Trade (+Import) (-Export)	Change in Stocks	Total Supply	Seed and Waste	Feed	Industrial	Total	Total Grains	Extraction Rate (Percent)	Total Net Food	Per Capita (Net) Kilograms Per Year	Calories Per Day
<b>Grains</b>													
Wheat	1,590	- 350		1,240	162	45	3	210	1,030	75	773	48.3	402
Rye	2,132	- 215		1,917	230	494	18	742	1,175	75	881	55.1	527
Subtotal	3,722	- 565		3,157	392	539	21	922	2,205		1,654	103.4	1,009
Barley	1,078	- 50		1,028	95	615	303	1,013	15	65	10	0.6	5
Oats	1,690	- 155		1,535	165	1,339	1	1,505	30	65	20	1.3	14
Corn	40	+ 25		65	2	53	10	65					
Other (except rice) b/	208			208	60	148		208					
Subtotal	3,016	- 180		2,836	322	2,155	314	2,791	45		20	1.0	10
Rice		+ 40		40					40		40	2.5	25
Total grains	6,738	- 705		6,033	714	2,694	335	3,743	2,290		1,724	107.8	1,051
Sugar (refined) c/	785	- 400		385					385		385	24.1	256
Potatoes	14,225	- 600		13,625	3,100	6,000	995	10,025	3,500		3,600	225.0	432
Total meat d/	615	+ 80		695					695		695	43.4	206
<b>Fats and oils</b>													
Butter	105	+ 25		130					130		130	8.1	159
Slaughter fats	140	+ 15		155			15	15	140		140	8.8	168
Vegetable oils	20	+ 215		235			85	85	150		150	9.4	220
Total fats and oils	265	+ 255		520			100	100	420		420	26.3	275
Fish (landed weight)	18	+ 165		183	9			9	174		174	10.9	15
Milk (whole)	4,900	+ 100		5,000		475	2,680	3,155	1,845		1,845	115.3	196
Total calories per day													2,813

a. Does not include alcoholic beverages.

b. Mealin only.

c. 90 percent of raw value.

d. Beef, veal, pork, goat, and mutton.

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Table 25

Estimated Supply and Utilization of Food in East Germany a/  
Consumption Year 1953-54  
(Population: 17,900,000)

Commodity	Thousand Metric Tons (Except Where Noted)												
	1	2	3	4	5	6	7	8	9	10	11	12	13
	Supply				Nonfood Uses				Utilization				
	Production	Net Trade (+Import) (-Export)	Change in Stocks	Total Supply	Seed and Waste	Feed	Industrial	Total	Total Gross	Extraction Rate (Percent)	Total Food	Per Capita (Net) Kilograms Per Year	Calories Per Day
<b>Grains</b>													
Wheat	880	+ 153	- 49	1,082	107	26	5	138	944	76	717	40.1	400
Rye	1,944	+ 160	- 92	2,196	279	350	20	649	1,547	76	1,176	65.7	628
Subtotal	2,824	+ 313	- 141	3,278	386	376	25	787	2,491		1,893	105.8	1,028
Barley	598	+ 186	- 47	831	98	698	60	776	55	65	36	2.0	18
Oats	1,061	+ 25	- 11	1,097	109	898	10	1,017	80	60	48	2.7	29
Other (except rice)	283	+ 32	-	315	34	32		86	249	76	189	10.6	101
Subtotal	3,242	+ 243	- 58	3,643	201	1,588	70	3,892	381		273	15.3	148
Rice		+ 30	-	30					30		30	1.7	17
Total grains	4,766	+ 526	- 192	5,551	587	1,964	95	2,646	2,905		2,196	122.8	1,193
Sugar (refined)	675	- 300		375					375		375	20.9	222
Postcose	10,400	- 200		10,200	2,892	4,200	500	7,592	2,608		2,608	145.7	279
Meat													
Beef and veal	127	+ 4		131					131		131	7.3	29
Pork	453	+ 8	- 7	468					468		468	26.1	215
Mutton and goat	20			20					20		20	1.1	3
Total meat	600	+ 12	- 7	619					619		619	34.5	247
Fats and oils													
Butter	91	+ 44		135					135		135	7.5	147
Slaughter fats	101	+ 36		137			31	31	106		106	5.9	126
Vegetable oils	56	+ 102		158			25	25	133		133	7.4	179
Total fats and oils	248	+ 182		430			56	56	374		374	20.8	152
Fish (landed weight)	56	+ 90		146	7			7	139		139	7.8	11
Milk (whole)	4,644	- 6		4,638		464	2,548	3,012	1,626		1,626	90.8	154
Total calories per day													2,558

a. Does not include alcoholic beverages.

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Table 26  
Estimated Supply and Utilization of Food in East Germany a/  
Consumption Year 1954-55  
(Population: 17,900,000)

Commodity	Thousand Metric Tons (Except Where Noted)												
	1	2	3	4	5	6	7	8	9	10	11	12	13
	Supply				Nonfood Uses					Utilization			
	Production	Net Trade (+Import) (-Export)	Change in Stocks	Total Supply	Seed and Waste	Feed	Industrial	Total	Total Gross	Extraction Rate (Percent)	Total Net Food	Per Capita (Net) Kilograms per Year	Calories per Day
Grains													
Wheat	848	+ 153		1,001	143	25	5	173	828	86	712	39.8	382
Rye	1,835	+ 150		1,985	354	367	15	736	1,249	86	1,074	60.0	561
Subtotal	2,683	+ 303		2,986	497	392	20	902	2,077		1,786	59.8	243
Barley	535	+ 182		717	64	533	60	657	60	65	39	2.2	20
Oats	1,043	+ 22		1,065	114	881	10	1,005	60	60	36	2.0	21
Other (except rice)	270	+ 32		302	34	32		66	236	80	189	10.5	96
Subtotal	1,848	+ 236		2,084	212	1,446	70	1,728	356		264	15.0	139
Rice		+ 34		34					34		34	1.9	19
Total grains	4,521	+ 573		5,094	700	1,838	90	2,637	2,467		2,084	116.7	1,101
Sugar (refined)	616	- 300		316					316		316	17.7	188
Potatoes	11,700	- 150		11,550	3,495	5,600	500	9,295	2,255		2,255	126.0	242
Meat													
Beef and veal	107	+ 15		122					122		122	6.8	27
Pork	406	+ 25	+ 7	424					424		424	23.7	195
Mutton and goat	20			20					20		20	1.1	3
Total meat	533	+ 40	+ 7	566					566		566	31.6	225
Fats and oils													
Butter	91	+ 40		131					131		131	7.3	143
Slaughter fats	96	+ 35		131			26	26	105		105	5.9	126
Vegetable oils	38	+ 60		98			20	20	78		78	4.4	107
Total fats and oils	225	+ 135		360			46	46	314		314	17.6	176
Fish (landed weight)	60	+ 100		160	8			8	152		152	8.5	12
Milk (whole)	4,752			4,752		475	2,548	3,023	1,729		1,729	96.6	164
Total calories per day													2,388

a. Does not include alcoholic beverages.

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Table 28  
Estimated Supply and Utilization of Food in Hungary 1953-54  
Consumption Year 1953-54  
(Population: 9,654,000)

Commodity	Thousand Metric Tons (Except Where Noted)												
	1	2	3	4	5	6	7	8	9	10	11	12	13
	Supply				Nonfood Uses				Utilization				
	Production	Net Trade (+Import) (-Export)	Change in Stocks	Total Supply	Seed and Waste	Feed	Industrial	Total	Total Gross	Extraction Rate (Percent)	Total Net Food	Per Capita (Net) Kilograms Per Year	Calories per Day
Grains													
Wheat	1,862	- 65		1,797	350	58	2	410	1,387	80	1,110	115.0	1,103
Rye	569			569	114	41		155	414	80	331	34.3	321
Subtotal	2,431	- 65		2,366	464	99	2	565	1,801		1,441	139.3	1,424
Barley	587	- 15		572	97	451	9	537	15	65	10	1.0	9
Oats	276	+ 2		278	46	230		276	46	85	45	4.5	45
Corn	1,768	- 25		1,743	133	1,510	50	1,693	50	85	14	1.4	13
Other (except rice)	25	+ 100		125	5	102		107	18	90	14	1.4	13
Subtotal	2,656	+ 62		2,718	283	2,291	59	2,635	92		57	7.3	67
Rice	37	+ 2		39	5			5	34	65	22	2.3	23
Total grains	5,124	- 1		5,123	752	2,392	61	3,205	1,918		1,530	156.9	1,514
Sugar (refined)	238	- 27	+ 13	198					198		198	20.5	217
Potatoes	1,445	+ 3		1,448	485	290	20	795	653		653	67.6	130
Meat													
Beef and veal	46	- 5		41					41		41	4.2	17
Pork	134	- 10		124					124		124	12.8	105
Mutton and goat	5			5					5		5	0.5	1
Total meat	185	- 15		170					170		170	17.5	123
Fats and oils													
Butter	14			14							14	1.4	27
Slaughter fats	59	+ 5		64			10	10	10		54	5.6	120
Vegetable oils	63	- 6		57			15	15	42		42	4.4	107
Total fats and oils	136	- 1		135			25	25	110		110	12.5	254
Fish (landed weight)	4			4	Negligible						4	0.4	1
Milk (whole)	1,190			1,190		154	308	464	726		726	75.2	124
Total calories per day													2,363

a. Does not include alcoholic beverages.

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Table 29

Estimated Supply and Utilization of Food in Hungary a/  
Consumption Year 1954-55  
(Population: 9,749,000)

Commodity	Thousand Metric Tons (Except Where Noted)												
	1	2	3	4	5	6	7	8	9	10	11	12	13
	Supply				Nonfood Uses				Utilization				
	Production	Net Trade (+Import) (-Export)	Change in Stocks	Total Supply	Seed and Waste	Food	Industrial	Total	Total Grains	Extraction Rate (Percent)	Total Net Food	Per Capita (Net) Kilograms Per Year	Calories Per Day
Grains													
Wheat	1,452	+ 420		1,872	311	51	2	364	1,508	80	1,286	127.7	1,186
Rye	444			444	111	44	2	157	287	80	230	23.6	220
Subtotal	1,896	+ 420		2,316	422	95	4	521	1,795		1,436	137.3	1,406
Barley	457			457	88	343	9	446	17	65	11	1.1	10
Oats	252			252	47	205		252					
Corn	1,793	+ 36		1,829	139	1,501	50	1,770	59	85	50	5.1	51
Other (except rice)	20			20	5	15		20					
Subtotal	2,522	+ 36		2,558	272	2,144	52	2,432	76		61	6.2	61
Rice	40	+ 10		50	6			6	44	65	29	3.0	30
Total grains	4,458	+ 466		4,924	707	2,239	61	2,009	1,915		1,526	156.5	1,497
Sugar (refined)	238	- 31		207					207		207	21.2	225
Potatoes	1,548			1,548	420	371	20	811	737		737	75.6	145
Meat													
Beef and veal	53	- 2		51					51		51	5.2	21
Pork	144	- 5		139					139		139	14.3	118
Mutton and goat	6			6					6		6	0.6	2
Total meat	203	- 7		196					196		196	20.1	141
Fats and oils													
Butter	14			14					14		14	1.4	27
Slaughter fats	67			67			10	10	57		57	5.8	124
Vegetable oils	50	+ 1		51			15	15	36		36	3.7	90
Total fats and oils	131	+ 1		132			25	25	107		107	10.9	241
Fish (landed weight)	4			4					4		4	0.4	1
Milk (whole)	1,115			1,115		145	308	453	662		662	67.9	112
Total calories per day													2,462

a. Does not include alcoholic beverages.

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Table 30

Estimated Supply and Utilization of Food in Poland <sup>a</sup>/<sub>1934-38 Average</sub>  
Consumption Year 1934-38 Average  
(Population: 32,000,000)

Commodity	Thousand Metric Tons (Except Where Noted)												
	1	2	3	4	5	6	7	8	9	10	11	12	13
	Supply				Nonfood Uses				Utilization				
	Production	Net Trade (+Import) (-Export)	Change in Stocks	Total Supply	Seed and Waste	Feed	Industrial	Total	Total Gross	Extraction Rate (Percent)	Total Net Food	Per Capita (Net) Kilograms Per Year	Calories Per Day
Grains													
Wheat	1,965	- 85		1,880	300	65	15	300	1,500	75	1,125	35.2	351
Rye	6,850	- 1,090		5,800	1,100	750	50	1,900	3,900	79	3,081	96.3	921
Subtotal	8,815	- 1,175		7,680	1,400	815	65	2,280	5,400		4,206	131.5	1,272
Barley	1,630	- 295		1,335	200	600	125	925	410	60	246	7.7	73
Oats	2,830	- 300		2,530	370	2,145	15	2,515	15	50	8	0.3	3
Corn	60	+ 25		85	5	60	10	75	10	80	8	0.3	3
Other (except rice)	495			495	55	305		360	135	73	99	3.1	30
Subtotal	5,015	- 570		4,445	630	3,110	135	3,875	570		361	11.4	102
Rice		+ 45		45					45		45	1.4	14
Total grains	13,830	- 1,660		12,170	2,030	3,925	200	6,155	6,015		4,612	144.3	1,385
Sugar (refined)	900	- 410		490					490		490	15.3	162
Potatoes	38,000	- 930		37,070	11,100	13,470	2,500	27,070	10,000		10,000	312.5	599
Meat													
Beef and veal	325	- 45		280					200		200	0.8	35
Pork	625	- 160		465					465		465	14.5	119
Mutton and goat	15			15					15		15	0.5	1
Total meat	965	- 205		760					760		760	23.8	155
Fats and oils													
Butter	170	- 15		155					155		155	4.8	94
Slaughter fats	200	- 15		185			30	30	155		155	4.8	103
Vegetable oils	30	+ 85		115			30	30	85		85	2.7	65
Total fats and oils	400	+ 55		455			60	60	395		395	12.3	262
Fish (landed weight)	150			150					150		150	4.7	6
Milk (whole)	10,200	- 300		9,900		1,300	4,900	6,200	3,700		3,700	115.6	196
Total calories per day													2,175

a. Does not include alcoholic beverages.

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Table 31

Estimated Supply and Utilization of Food in Poland a/  
Consumption Year 1953-54  
(Population: 26,506,000)

Commodity	Production	Supply					Nonfood Uses					Food Availabilities				
		Net Trade (+Import) (-Export)	Change in Stocks	Total Supply	Seed and Waste	Feed	Industrial	Total	Total Gross	Extraction Rate (Percent)	Total Net Food	Per Capita (Net)				
												Kilograms per Year	Calories per Day	11	12	13
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Grains																
Wheat	1,664	+ 250		1,914	310	50	15	375	1,539	80	1,231	46.4	445			
Rye	5,279	+ 235		5,514	1,046	924	65	2,035	3,479	80	2,703	105.0	981			
Subtotal	6,943	+ 485		7,428	1,356	974	80	2,430	5,018		4,014	151.4	1,426			
Barley	1,179	- 100		1,079	194	758	90	1,042	37	70	26	1.0	9			
Oats	2,093	+ 50		2,143	400	1,721	22	2,121	22	60	13	0.5	5			
Other (except rice)	284			284	57	117	10	184	100	80	80	3.0	28			
Subtotal	3,556	- 50		3,506	651	2,596	100	3,347	152		112	4.5	42			
Rice		+ 50		50					50		50	1.9	19			
Total grains	10,492	+ 485		10,984	2,007	3,570	180	5,757	5,227		4,183	157.8	1,487			
Sugar (refined)	995	- 435	+ 30	530					530		530	20.0	212			
Peanut oil	30,375			30,375	9,756	11,676	2,000	23,432	6,943		6,943	261.9	502			
Meat																
Beef and veal	133	- 5		128					128		128	4.8	19			
Pork	26			26					26		26	1.0	3			
Fat	597	- 115		480					480		480	18.1	149			
Total meat	756	- 120		634					634		634	23.9	171			
Fats and oils																
Butter	111	- 7		104					104		104	3.9	77			
Slaughter fats	207	- 20		187			20	20	167		167	6.3	135			
Vegetable oils	59	+ 20		79			23	23	56		56	2.1	51			
Total fats and oils	377	- 7		370			43	43	327		327	12.3	263			
Fish (packed weight)	90	- 20		70					66		66	2.5	3			
Milk (whole)	9,010			9,010					4,120		4,890	184.5	313			
Total calories per day																2,821

a. Does not include alcoholic beverages.

b. On the basis of a milk-to-butter ratio of 29 to 1.



Table 32

Estimated Supply and Utilization of Food in Poland a/  
Consumption Year 1954-55  
(Population: 27,020,000)

Commodity	Thousand Metric Tons (Except Where Noted)												
	1	2	3	4	5	6	7	8	9	10	11	12	13
	Supply				Nonfood Uses				Food Availabilities				
	Production	Net Trade (+Import) (-Export)	Change in Stocks	Total Supply	Seed and Waste	Feed	Industrial	Total	Total Gross	Extraction Rate (Percent)	Total Net Food	Per Capita (Net) Kilograms Per Year	Calories Per Day
<b>Grains</b>													
Wheat	1,939	+ 530	+ 500	1,969	349	50	15	414	1,555	80	1,244	46.0	441
Rye	5,932	+ 315	+ 202	6,045	1,062	1,203	65	2,330	3,715	80	2,972	110.0	1,028
Subtotal	7,871	+ 845	+ 702	8,014	1,411	1,253	80	2,744	5,270		4,216	156.0	1,469
Barley	1,094	- 100		994	190	676	68	954	40	70	28	1.0	9
Oats	2,093	+ 25		2,093	365	1,706	10	2,071	22	60	13	0.5	5
Other (except rice)	311			356	63	165		236	100	80	80	3.0	28
Subtotal	3,498	- 75		3,423	618	2,545	93	3,261	162		120	4.5	42
Rice		+ 50		50							50	1.9	19
Total grains	11,369	+ 820	+ 702	11,887	2,029	3,768	173	6,005	5,432		4,386	162.4	1,530
Sugar (refined)	855	- 315		540					540		540	20.0	212
Potatoes	30,375			30,375	9,756	11,676	2,000	23,432	6,943		6,943	257.0	493
Meat													
Beef and veal	139	- 5		134					134		134	5.0	20
Pork	595	- 115		480					480		480	17.8	146
Mutton and goat	32			32					32		32	1.2	4
Total meat	766	- 120		646					646		646	24.0	170
Fats and oils													
Butter	111	- 7		104					104		104	3.8	75
Slaughter fats	207	- 20		187			20	20	167		167	6.2	132
Vegetable oils	50	+ 20		70			23	23	47		47	1.7	41
Vegetable oilseeds													
Total fats and oils	368	- 7		361			43	43	318		318	11.7	248
Fish (landed weight)	90	- 20		70					66		66	2.4	3
Milk (whole)	9,010			9,010	4	901	3,219 b/	4,120	4,890		4,890	181.0	307
Total calories per day													2,063

a. Does not include alcoholic beverages.

b. On the basis of a milk-to-butter ratio of 29 to 1.

Table 33

Estimated Supply and Utilization of Food in Rumania a/  
Consumption Year 1933-37 Average  
(Population: 15,200,000)

Commodity	Production	Thousand Metric Tons (Except Where Noted)										
		Supply					Nonfood Uses			Utilization		
		Net Trade (+Import) (-Export)	Change in Stocks	Total Supply	Seed and Waste	Feed	Industrial	Total Gross	Extraction Rate (Percent)	Total Net Food	Per Capita Kilograms per Year	Calories per Day
Grains												
Wheat	2,325	- 235		2,090	510	25	15	550	75	1,155	76.0	758
Rye	155			155	35	5		40	80	92	6.1	57
Subtotal	2,480	- 235		2,245	545	30	15	590		1,217	82.1	815
Barley	690	- 85		605	155	400	20	575	65	20	1.3	12
Oats	585	- 11		574	125	649		774				
Corn	3,900	- 260		3,640	270	1,000	45	1,315	85	1,976	130.0	1,293
Other (except rice)	60	- 10		50	10	20		30	80	16	1.1	10
Subtotal	5,235	- 366		4,869	560	1,869	65	2,494		2,012	132.4	1,315
Rice		+ 12		12				12		12	0.0	8
Total grains	7,715	- 589		7,126	1,103	1,999	80	3,084		3,271	215.3	2,138
Sugar (refined)	68			75				75		75	4.9	52
Potatoes	1,300	+ 7		1,300	325	175		500		800	52.6	101
Meat												
Beef and veal	95	- 10		85				85		85	5.6	22
Pork	150	- 15		135				135		135	8.9	73
Mutton and goat	50			50				50		50	3.3	10
Total meat	295	- 25		270				270		270	17.8	105
Fats and oils												
Butter	10			10				10		10	0.7	14
Slaughter fats	45	- 5		40				40		40	2.3	49
Vegetable oils	25	+ 15		40				40		40	2.3	56
Total fats and oils	80	+ 10		90				90		90	5.3	119
Fish (landed weight)	10	+ 5		15				15		15	1.0	1
Milk (whole)	1,400			1,400		336	251	551		849	55.9	92
Total calories per day												2,608

a. Does not include alcoholic beverages.

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Table 34

Estimated Supply and Utilization of Food in Rumania a/  
Consumption: Year 1953-54  
(Population: 17,082,000)

Thousand Metric Tons (Except Where Noted)																				
Commodity	1	2	3	4	5	6	7	8	9	Utilization			Food Availabilities							
										Production	Net Trade (+Import -Export)	Change in Stocks	Seed and Waste	Nonfood Uses		Food Availabilities				
														Feed	Industrial	Total Gross	Extraction Rate (Percent)	Total Net	Kilograms per Year	Calories per Day
Grains																				
Wheat	2,191	- 279		1,912	494	24	13	531	1,381	85	1,174	68.7	659							
Rye	126	- 10		116	31	1		32	84	85	71	4.2	39							
Subtotal	2,317	- 289		2,028	525	25	13	563	1,465		1,245	72.9	698							
Barley	390	- 20		370	106	218	20	344	26	65	17	1.0	9							
Oats	420			420	102	318		420												
Corn	2,570	- 6		2,564	296	260	45	561	2,003	90	1,903	105.5	1,040							
Other (except rice)	43			43	11	11		22	21	80	17	1.0	9							
Subtotal	3,423	- 26		3,397	475	807	65	1,347	2,050		1,937	107.5	1,050							
Rice	26			26	3			3	23	65	15	0.9	9							
Total grains	5,766	- 315		5,451	1,003	832	78	1,911	3,533		3,097	101.1	1,765							
Sugar (refined)	96	- 30		66				66	66		66	3.9	41							
Potatoes	800			800	310	42	7	359	441		441	25.8	49							
Meat																				
Beef and veal	78	- 10		68				68	68		68	4.0	16							
Pork	144	- 25		119				119	119		119	7.0	50							
Mutton and goat	35	- 5		30				30	30		30	1.8	5							
Total meat	257	- 40		217				217	217		217	12.8	72							
Fats and oils																				
Butter	10			10				10	10		10	0.6	12							
Slaughter fats	30	+ 8		30			5	5	25		25	1.5	32							
Vegetable oils	69 b/			77			10	10	67		67	3.9	94							
Total fats and oils	109	+ 8		117			15	15	102		102	6.0	138							
Fish (landed weight)	20	Negligible		20				20	19		19	11.1	2							
Milk (whole)	1,790			1,790	1	427	220	647	1,143		1,143	66.9	110							
Total calories per day													2,384							

a. Does not include alcoholic beverages.

b. Includes the oil equivalent of 10,000 metric tons of oilseeds consumed directly.

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Table 35  
Estimated Supply and Utilization of Food in Rumania a/  
Consumption Year 1954-55  
(Population: 17,309,000) b/

Commodity	Thousand Metric Tons (Except Where Noted)												
	1	2	3	4	5	6	7	8	9	10	11	12	13
	Supply				Nonfood Uses				Utilization				
	Production	Net Trade (+Import) (-Export)	Change in Stocks	Total Supply	Seed and Waste	Feed	Industrial	Total	Total Gross	Extraction Rate (Percent)	Total Net Food	Per Capita (Net) Kilograms Per Year	Calories Per Day
<b>Grains</b>													
Wheat	2,058	+ 211		2,269	503	24	13	540	2,729	85	1,470	84.9	814
Rye	120			120	31	1		32	88	85	75	4.3	40
Subtotal	2,178	+ 211		2,389	534	25	13	572			1,545	89.2	854
Barley	360	- 20		340	88	232	20	340					
Oats	312			312	71	241		312					
Corn	2,890	- 154		2,736	257	396	45	698	2,038	90	1,834	106.0	1,045
Other (except rice)	38			38	11	26		37					
Subtotal	3,600	- 174		3,426	427	895	65	1,387			1,834	106.0	1,045
Rice	48			48	5			5	43	65	28	1.6	16
Total grains	5,826	+ 27		5,853	966	220	78	1,964	3,898		3,407	196.8	1,915
Sugar (refined)	101	+ 3		104					104		104	6.0	64
Potatoes	800			800	300	52	7	359	441		441	25.5	49
Meat													
Beef and veal	78	- 20		58					58		58	3.4	14
Pork	144	- 25		119					119		119	6.9	57
Mutton and goat	35	- 5		30					30		30	1.7	5
Total meat	257	- 50		207					207		207	12.0	76
Fats and oils													
Butter	10			10									
Slaughter fats	30			30									
Vegetable oils c/	63	- 1		62									
Vegetable oilseeds													
Total fats and oils	103	- 1		102									
Fish (landed weight)	20	Negligible		20									
Milk (whole)	1,790			1,790									
Total calories per day						427	220	647	1,143		1,143	66.0	108
													2,122

a. Does not include alcoholic beverages.

b. As of 1 January 1955.

c. Includes the oil equivalent of 10,000 metric tons of oilseeds consumed directly.

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Table 36

Estimated Supply and Utilization of Food in Communist China 9/\*  
Consumption Year 1931-38 Average  
(Population: 473,700,000)

Commodity	Thousand Metric Tons (Except Where Noted)												
	1	2	3	4	5	6	7	8	9	10	11	12	13
	Supply					Nonfood Uses					Utilization		
	Production	Net Trade (+Import) (-Export)	Change in Stocks	Total Supply	Seed and Waste	Feed	Industrial	Total	Total Gross	Extraction Rate (Percent)	Total Net Food	Per Capita (Net) Kilograms Per Year	Calories Per Day
Wheat	22,763	+ 555		23,318	2,936	217	496	3,649	19,669	85	16,719	35.3	338
Other grains (except rice)													
Barley	7,871	- 1		7,870	944	2,755	551	4,250	3,680	80	2,896	6.1	55
Oats	801	- 4		797	114	280		334	543	50	272	0.6	6
Corn	8,627	- 113		8,514	672	780	790	2,242	6,272	100	6,272	13.2	129
Millet	9,778	- 186		9,592	564	665	696	1,925	7,667	90	6,900	14.6	137
Proso-millet	1,580			1,580	111	142	111	365	1,215	90	1,024	2.3	21
Kaoliang	11,365	- 202		11,163	780	1,052	1,625	3,457	7,699	90	6,928	14.6	137
Miscellaneous grains	1,435	- 36		1,399	159		861	1,020	379	80	303	0.6	6
Subtotal other grains	41,537	- 519		40,988	4,345	5,614	4,634	13,593	27,395		24,666	52.0	191
Rice													
Nonglutinous	46,246	+ 819		47,065	2,745		456	3,201	43,864	74	32,459	68.5	674
Glutinous	4,469			4,469	270		268	538	3,931	70	2,752	5.8	57
Subtotal rice	50,715	+ 819		51,534	3,015		724	3,739	47,795		35,211	74.3	731
Total grains	115,015	+ 825		115,840	9,296	5,831	5,354	20,921	94,859		76,596	161.6	1,560
Potatoes													
Sweet	18,526	- 3		18,523	2,979	3,705	926	7,610	10,913		10,913	23.0	61
White	2,962	- 21		2,941	661	267	171	1,099	1,842		1,842	3.9	7
Total potatoes	21,488	- 24		21,464	3,640	3,972	1,097	8,709	12,755		12,755	26.9	68
Cane sugar	400	+ 650		1,050					1,050		1,050	2.2	23

\* Footnote for Table 36 follows on p. 61.

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Table 36  
Estimated Supply and Utilization of Food in Communist China <sup>a/</sup>  
Consumption Year 1931-38 Average  
(Population: 473,700,000)  
(Continued)

Thousand Metric Tons (Except Where Noted)													
	1	2	3	4	5	6	7	8	9	10	11	12	13
	Utilization												
	Supply				Nonfood Uses				Food Availabilities				
		Net Trade (+Import) (-Export)	Change in Stocks	Total Supply	Seed and Waste	Feed	Industrial	Total	Total Gross	Extraction Rate (Percent)	Total Net Food	Per Capita (Net)	
Commodity	Production											Kilograms per Year	Calories per Day
Pulses and oilseeds													
Vegetable oilseeds	17,708	- 2,196		15,512	1,930	602	8,004	10,536	4,976		4,976	10.5	104
Broad beans	3,018	- 86		2,932	386		60	446	2,486		2,486	5.2	49
Field peas	3,190			3,190	419	797	191	1,407	1,783		1,783	3.8	36
Fruits and vegetables												55.0	35
Meat													
Beef and veal	629	- 7		622					622		622	1.3	6
Buffalo	436			436					436		436	0.9	4
Pork	3,873	- 27		3,846					3,846		3,846	8.1	45
Mutton and lamb	171	- 4		167					167		167	0.4	2
Goat	159			159					159		159	0.3	1
Poultry	402			402					402		402	0.8	4
Total meat	5,670	- 38		5,632					5,632		5,632	11.8	62
Eggs	756	- 130		626					626		626	1.3	5
Fish (landed weight)	3,000	+ 53		3,053					3,053		3,053	6.4	11
Fats and oils													
Vegetable oils	1,601	- 113		1,488			190		1,298		1,298	2.7	65
Pork fat	1,032			1,032					1,032		1,032	2.2	49
Total fats and oils	2,633	- 113		2,520			190		2,330		2,330	4.9	114
Total calories per day													2,067

a. Does not include alcoholic beverages. The general methodology used in the derivation of estimates in this table is described in detail in source 29/. Revisions of the estimates given in that source are described in Appendix B, p. 67, below.

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Table 37  
Estimated Supply and Utilization of Food in Communist China <sup>a</sup>/<sub>\*\*</sub>  
Consumption Year 1953-54  
(Population: 573,200,000)

Thousand Metric Tons (Except Where Noted)													
	1	2	3	4	5	6	7	8	9	10	11	12	13
Commodity	Supply				Utilization				Food Availabilities				
	Production	Net Trade (+Import) (-Export)	Change in Stocks	Total Supply	Nonfood Uses			Total Gross	Extraction Rate (Percent)	Total Net Food	Per Capita (Net)		
					Seed and Waste	Feed	Industrial				Kilograms per Year	Calories per Day	
Wheat	22,325	- 11		22,314	3,470	217	479	4,166	18,148	90	16,333	28.5	273
Other grains (except rice)													
Barley	7,338			7,338	937	2,568	514	4,019	3,319	80	2,655	4.6	42
Oats	1,039	- 2		1,037	142	260		402	635	50	318	0.6	6
Corn	10,331	- 46		10,285	862	758	1,371	2,991	7,294	100	7,294	12.7	124
Millet	9,494	- 250		9,244	580	608	736	1,924	7,320	90	6,588	11.5	108
Proso-millet	1,612			1,612	121	145	112	378	1,234	90	1,111	1.9	18
Kaoliang	9,988	- 250		9,738	742	834	1,462	3,038	6,700	90	6,030	10.5	99
Miscellaneous	1,300			1,300	144		780	924	376	80	301	0.5	5
Subtotal other grains	41,102	- 548		40,554	3,528	5,173	4,975	13,676	26,878		24,297	42.3	402
Rice													
Nonglutinous	45,663	- 610		45,053	2,706		456	3,242	41,811	82	34,285	59.8	588
Glutinous	2,536			2,536	154		152	306	2,230	78	1,739	3.0	30
Subtotal rice	48,199	- 610		47,589	2,940		608	3,548	44,041		36,024	62.8	618
Total grains	111,626	- 1,169		110,457	9,932	5,390	6,062	21,391	89,067		76,654	133.6	1,293
Potatoes													
Sweet	28,673			28,673	4,588	5,735	1,434	11,757	16,916		16,916	29.5	78
White	2,362			2,362	614	165	142	921	1,441		1,441	2.5	5
Total potatoes	31,035			31,035	5,202	5,900	1,576	12,678	18,357		18,357	32.0	83
Cane sugar	390	+ 92		482					482		482	0.8	8

\* Footnote for Table 37 follows on p. 63.

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Table 37  
Estimated Supply and Utilization of Food in Communist China <sup>a/</sup>  
Consumption Year 1953-54  
(Population: 573,200,000)  
(Continued)

Thousand Metric Tons (Except Where Noted)													
	1	2	3	4	5	6	7	8	9	10	11	12	13
Commodity	Production	Net Trade (+Import) (-Export)	Change in Stocks	Total Supply	Seed and Waste	Nonfood Uses			Utilization				
						Feed	Industrial	Total	Food Availabilities				
									Total Gross	Extraction Rate (Percent)	Total Net Food	Per Capita (Net) Kilograms per Year	Calories per Day
Pulses and oilseeds													
Vegetable oilseeds	16,175	- 1,670		14,505	1,859	543	6,626	9,028	5,477		5,477	9.6	100
Broad beans	2,993			2,993	420	0	60	480	2,513		2,513	4.4	42
Field peas	3,105			3,105	406	776	186	1,368	1,737		1,737	3.0	28
												55.0	35
Fruits and vegetables													
Meat													
Beef and veal	691	- 6		685					685		685	1.2	5
Buffalo	410			410					410		410	0.7	3
Pork	4,150	- 108		4,042					4,042		4,042	7.0	40
Mutton and lamb	128	- 1		127					127		127	0.2	1
Goat	236			236					236		236	0.4	1
Poultry	329	- 10		319					319		319	0.6	3
Total meat	5,944	- 125		5,819					5,819		5,819	10.1	53
Eggs	750	- 63		687					687		687	1.2	5
Fish (landed weight)	3,600	- 9		3,591					3,591		3,591	6.3	11
Fats and oils													
Vegetable oils	1,326	- 195		1,131			100		1,031		1,031	1.8	44
Pork fat	1,100	- 7		1,093					1,093		1,093	1.9	43
Total fats and oils	2,426	- 202		2,224			100		2,124		2,124	3.7	87
Total kilograms per year												259.8	
Total calories per day													1,745

a. Does not include alcoholic beverages. The general methodology used in the derivation of estimates in this table is described in detail in source 23/. Revisions of the estimates given in that source are described in Appendix B, p. 67, below.

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Table 38  
Estimated Supply and Utilization of Food in Communist China a/\*  
Consumption Year 1954-55  
(Population: 578,900,000)

Thousand Metric Tons (Except Where Noted)													
	1	2	3	4	5	6	7	8	9	10	11	12	13
Commodity	Production	Utilization											
		Supply				Nonfood Uses				Food Availabilities			
		Net Trade (+Import) (-Export)	Change in Stocks	Total Supply	Seed and Waste	Feed	Industrial	Total	Total Gross	Extraction Rate (Percent)	Total Net Food	Per Capita (Net) Kilograms per Year	Calories per Day
Wheat	24,825	-	11	24,814	3,545	241	532	4,318	20,496	90	18,446	31.9	305
Other grains (except rice)													
Barley	7,356			7,356	938	2,575	515	4,028	3,328	80	2,662	4.6	42
Oats	1,078	-	2	1,076	143	270		413	663	50	332	0.6	6
Corn	10,951	-	40	10,911	881	804	1,453	3,138	7,773	100	7,773	13.4	131
Millet	9,826			9,826	590	629	762	1,981	7,845	90	7,061	12.2	115
Proso-millet	1,546			1,546	119	139	103	366	1,180	90	1,062	1.8	17
Kaoliang	10,216			10,216	748	858	1,496	3,102	7,114	90	6,403	11.1	103
Miscellaneous	1,300			1,300	144		760	924	376	80	301	0.5	5
Subtotal other grains	42,273	-	42	42,231	3,563	2,275	5,134	13,952	28,279		25,594	44.2	419
Rice													
Nonglutinous	37,680	-	665	37,015	2,546		377	2,923	34,092	84	28,637	49.5	487
Glutinous	2,081			2,081	140		125	265	1,816	80	1,453	2.5	25
Total rice	39,761	-	665	39,096	2,686		502	3,188	35,908		30,090	52.0	512
Total grains	106,859	-	718	106,141	2,794	5,516	6,143	21,458	84,633		74,130	128.0	1,236
Potatoes													
Sweet	25,732			25,732	4,117	5,146	1,287	10,550	15,182		15,182	26.2	70
White	2,362			3,362	614	165	142	921	1,441		1,441	2.5	5
Total potatoes	28,094			28,094	4,731	5,311	1,429	11,471	16,623		16,623	28.7	75
Cane sugar	440	+	68	508					508		508	0.9	10

\* Footnote for Table 38 follows on p. 65.

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Table 38  
Estimated Supply and Utilization of Food in Communist China <sup>a/</sup>  
Consumption Year 1954-55  
(Population: 578,900,000)  
(Continued)

Thousand Metric Tons (Except Where Noted)													
	1	2	3	4	5	6	7	8	9	10	11	12	13
Commodity	Production	Supply			Nonfood Uses				Food Availabilities				
		Net Trade (+Import) (-Export)	Change in Stocks	Total Supply	Seed and Waste	Feed	Industrial	Total	Total Gross	Extraction Rate (Percent)	Total Net Food	Per Capita (Net)	
												Kilograms per Year	Calories per Day
Pulses and oilseeds													
Vegetable oilseeds	15,956	- 1,371		14,585	1,852	540	7,032	9,424	5,161		5,161	8.9	89
Broad beans	2,993			2,993	420		60	480	2,513		2,513	4.3	41
Field peas	3,105			3,105	406	776	186	1,368	1,737		1,737	3.0	28
Fruits and vegetables												55.0	35
Meat													
Beef and veal	706	- 11		695					695		695	1.2	5
Buffalo	417			417					417		417	0.7	3
Pork	4,150	- 124		4,026					4,026		4,026	7.0	40
Mutton and lamb	137	- 2		135					135		135	0.2	1
Goat	252			252					252		252	0.4	1
Poultry	329	- 11		318					318		318	0.6	3
Total meat	5,991	- 148		5,843					5,843		5,843	10.1	51
Eggs	750	- 76		674					674		674	1.2	5
Fish (landed weight)	4,000	- 9		3,991					3,991		3,991	6.9	12
Fats and oils													
Vegetable oils	1,373	- 146		1,227			100		1,127		1,127	2.0	48
Pork fat	1,100	- 9		1,091					1,091		1,091	1.9	42
Total fats and oils	2,473	- 155		2,318			100		2,218		2,218	3.9	20
Total calories per day													1,674

a. Does not include alcoholic beverages. For methodology, see Appendix B.

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## APPENDIX B

### METHODOLOGY

The methodology used in constructing the food balances given in Appendix A is essentially the same as that used in constructing food balances in the published report on the 1953-54 food situation in the Sino-Soviet Bloc. It would be impracticable to reproduce that detailed methodology in this report. Only the methodology used in deriving new estimates and in revising previous estimates, therefore, is discussed below, and there is frequent reference to the 1953-54 report.

#### I. USSR.

##### A. 1938-39 Food Balance.

The food balance sheets for the USSR for the consumption year 1938-39 remain as published previously. 9/

##### B. 1953-54 Food Balance.

The food balance sheets for the USSR for the consumption year 1953-54 remain the same 10/ for all commodities except grains and sugar. The methodology pertaining to all other commodities is unchanged. 11/

##### 1. Grains.

Figures for production of grains in 1953 are revised estimates.

Figures for trade in grains, as well as in all other products during 1953-54, are preliminary estimates obtained from scraps of information and reported trade agreements up to 30 March 1955, unless otherwise noted, and are subject to a margin of error of 10 percent or more.

It is believed that during the 1953-54 consumption year the USSR had to draw on reserve stocks of grains in order to meet current needs. The revised estimate of withdrawals of 2.4 million tons from reserves was based on the relation of the estimated total gross supply -- for both nonfood and food uses -- to estimated production.

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Estimates of seed and waste are as follows:

<u>Crop</u>	<u>Acreage (Million Hectares)</u>	<u>Seeding Rate (Centners per Hectare)</u>	<u>Total Seed (Million Metric Tons)</u>	<u>Waste* (Million Metric Tons)</u>	<u>Total Seed and Waste (Million Metric Tons)</u>
Wheat	49.3	1.4	6.9	1.1	8.0
Rye	22.7	1.4	3.2	0.6	3.8
Barley	8.5	1.2	1.0	0.2	1.2
Oats	16.5	1.6	2.6	0.4	3.0
Corn	4.3	0.5	0.2	0.1	0.3
Other grains	10.7	1.2	1.3	0.2	1.5

The estimated quantity of bread grains fed to livestock has not been revised, but a slight adjustment has been made in the quantities of wheat and rye. Estimates of oats and barley fed to livestock have been revised downward in proportion to the downward revision in the estimates of their production. 12/ No revision has been made in the estimated quantity of "other grains" fed. The estimate of corn fed to livestock is a residual figure obtained by deducting estimated quantities of bread grains, barley, oats, and "other grains" fed to livestock in 1953-54 from the total requirements for grain feed of about 16 million tons, 13/ divided as follows:

<u>Type of Livestock</u>	<u>Numbers** (Million Head)</u>	<u>Annual Consumption</u>	
		<u>Per Head (Kilograms)</u>	<u>Total (Million Metric Tons)</u>
Horses	15.5	400	6.2
Hogs	29.6	200	5.9
Cattle	57.7	50	2.9
Sheep and goats	112.1	3	0.3
Poultry	275.0	2	0.6
Total			<u>15.9</u>

\* Equals 3 percent of production.

\*\* As of 1 January 1954.

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Previous estimates of industrial uses of grains remain unchanged <sup>14/</sup> for all commodities except corn. That estimate was increased to 1.3 million tons to bring the total up to the 3 million tons required for production of 198 million gallons of alcohol distilled from grain and 18 million hectoliters of beer.

No significant change was made in the previous estimate of the total gross availability of grain for direct consumption. The minor changes in distribution of the grains resulted in very insignificant changes in caloric intake.

2. Sugar.

The estimate of production of sugar in 1953 has been revised to 3 million tons. <sup>15/</sup> The estimated amount of sugar diverted into reserves was revised slightly upward on the basis of the higher production figure.

C. 1954-55 Food Balance.

1. Grains.

Figures for trade in grains, as well as in all other commodities, are preliminary estimates, based on scraps of information and reported trade agreements up to 30 March 1955, and are subject to a margin of error of at least 10 percent.

Estimates of seed and waste are as follows:

<u>Crop</u>	<u>Acreage (Million Hectares)</u>	<u>Seeding Rate (Centners per Hectare)</u>	<u>Total Seed (Million Metric Tons)</u>	<u>Waste* (Million Metric Tons)</u>	<u>Total Seed and Waste (Million Metric Tons)</u>
Wheat	61.0	1.4	8.5	1.1	9.6
Rye	23.0	1.4	3.2	0.6	3.8
Barley	8.0	1.2	1.0	0.2	1.2
Oats	15.5	1.6	2.4	0.4	2.8
Corn	14.0	0.5	0.7	0.1	0.8
Other grains	13.0	1.2	1.6	0.2	1.8

\* Equals 3 percent of production.

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Because of the increased demand for seed created by the expansion of acreage under the "new lands" program, the estimated quantity of wheat fed to livestock has been held arbitrarily at 700,000 tons, and that of rye has been increased to 200,000 tons. The estimates of barley and oats fed to livestock have been increased, taking into consideration the fact that the percentage increase in the quantities of these two grains fed to livestock would certainly exceed the gross increase in production. The quantity of "other grains" used for feed is assumed to have been the same as in 1953-54. The estimate of the quantity of corn used for feed is a residual figure used to bring the total quantity of grains fed to livestock in 1954-55 up to 16.7 million tons, divided as follows:

Type of Livestock	Numbers* (Million Head)*	Annual Consumption	
		Per Head** (Kilograms)	Total (Million Metric Tons)
Horses	16.2	400	6.5
Hogs	31.8	200	6.4
Cattle	58.9	50	2.9
Sheep and goats	114.7	3	0.3
Poultry	280.0	2	0.6
Total			<u>16.7</u>

The estimated quantities of wheat, rye, and barley used in the manufacture of alcohol and beer have each been arbitrarily increased 100,000 tons above the 1953-54 estimate to bring the total up to the 3.3 million tons required for production of 215 million gallons of alcohol distilled from grains and 20 million hectoliters of beer.

## 2. Sugar.

The estimate of production of sugar is a preliminary estimate based on Soviet sources. 17/

\* As of 1 January 1955.

\*\* Feeding rates are the same as in 1953-54. 16/

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3. Potatoes.

The estimate of production of potatoes was derived by multiplying an acreage slightly greater than the acreage in 1953 18/ by the yield per acre in 1953.

Waste is conventionally estimated at 10 percent of production. The estimate of seed was derived by multiplying 8.5 million hectares by 1,750 kilograms (kg) of seed per hectare. The estimated sum of seed and waste has been rounded to 21.6 million tons.

The use of potatoes for feed was estimated to be 1 percent greater than in 1953-54. This increase is in proportion to the increase in production.

The use of potatoes for industrial purposes includes the quantity of potatoes required to produce 60 million gallons of alcohol distilled from potatoes.

4. Meat.

The estimate of production of meat was based on estimated livestock numbers and slaughter weights. Details are given in source 19/.

5. Slaughter Fats.

The estimate of production of slaughter fats was computed from production of meat by the use of standard factors.

6. Vegetable Oils.

The estimate of production of vegetable oils, including edible and nonfood oils, was based on a planned increase of 11 percent 20/ over the production level of 1953-54. Industrial use was estimated at approximately 40 percent of the total supply.

7. Marine Oil.

Production of marine oil was assumed to be the same as in 1953-54.

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## 8. Oilseeds.

The slight increase in production of oilseeds was based on a reported increase in acreage. 21/

This estimate of seed and waste includes the quantity of seed needed to sow the estimated 1955 acreage of oilseeds plus a waste factor of 3 percent of production.

The use of oilseeds for industrial purposes includes the quantity of oilseeds required to produce 1,380,000 tons of vegetable oils.

## 9. Fish.

The fish catch was based on a planned increase of 14 percent 22/ over production in 1953-54. Spoilage and waste were estimated at about 28 percent of the total available supply.

## 10. Milk.

Production of milk, 27.2 million tons, was estimated by multiplying the estimated number of cows -- 25.2 million as of 1 January 1955 -- by the estimated average yield per cow -- 1,080 liters. It was estimated that 8.2 million tons of milk were used for butter (20 kg of milk equaling 1 kg of butter). Whole milk was estimated at 19 million tons, of which 2 million tons are estimated to have been fed to livestock, and 17 million tons consumed as whole milk or its products -- cheese, ice cream, and the like.

# II. European Satellites.

## A. General.

The prewar food balance sheets prepared for the European Satellites are the same as those previously published. 23/ For the consumption year 1953-54, however, minor revisions in the balance sheets from those previously published 24/ were made in view of changes in population, production, and net trade. The revisions for 1953-54 and the methodology for the 1954-55 food balances are given below by country.

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B. Albania.

1. 1953-54 Food Balance.

Revisions in estimates of production in Albania, based on more complete information, were made for sugar, meat, and slaughter fats.

A change in the utilization pattern of bread grains and corn for food resulted in increased estimates of stockpiling and animal consumption of grain.

2. 1954-55 Food Balance.

The estimate of production of sugar was calculated on a refined basis. Refined sugar is considered to equal 90 percent of raw sugar.

Data on trade are estimates based on fragmentary evidence from a number of sources.

Estimates of seed and waste are as follows:

<u>Crop</u>	<u>Acreage (Thousand Hectares)</u>	<u>Seeding Rate (Kilograms per Hectare)</u>	<u>Total Seed (Thousand Metric Tons)</u>	<u>Waste* (Thousand Metric Tons)</u>	<u>Total Seed and Waste (Thousand Metric Tons)</u>
Wheat	108.0	180	19.4	3.4	22.8
Rye	4.0	180	0.7	0.1	0.8
Barley	11.0	155	1.7	0.3	2.0
Oats	13.0	155	2.0	0.3	2.3
Corn	98.0	40	3.9	3.6	7.5
Rice	2.9	160	0.5	0.2	0.7
Other					
grains	24.0	180	4.3		
Potatoes	1.0	1,500	1.5	0.2**	1.7

\* Equals 3 percent of production of grains.

\*\* Equals 5 percent of production.

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The estimate of industrial uses of grains is the same as that shown in the 1953-54 food balance.

C. Bulgaria.

1. 1953-54 Food Balance.

Estimates of production of meat, slaughter fats, and milk in Bulgaria have been revised on the basis of more complete information. Estimates of utilization were changed by application of the same methodology used in source 25/.

2. 1954-55 Food Balance.

The margin of error in estimates of production is 10 percent.

Estimates of trade were based on fragmentary evidence from a number of sources.

Estimates of seed and waste are as follows:

<u>Crop</u>	<u>Acreage (Thousand Hectares)</u>	<u>Seeding Rate (Kilograms per Hectare)</u>	<u>Total Seed (Thousand Metric Tons)</u>	<u>Waste* (Thousand Metric Tons)</u>	<u>Total Seed and Waste (Thousand Metric Tons)</u>
Wheat	1,500.0	175	262.5	60.0	322
Rye	240.0	175	42.0	7.9	50
Barley	295.0	150	44.2	12.6	57
Oats	155.0	150	23.2	3.9	27
Corn	800.0	40	32.0	24.2	56
Rice	10.0	185	1.8	0.8	3
Other					
grains	60.0	160	9.6	2.0	12
Potatoes	18.0	1,400	25.2	4.2**	29

Other nonfood uses were calculated in the same way as in the report on the 1953-54 food balance. 26/

\* Equals 3 percent of production of grains.

\*\* Equals 5 percent of production.

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D. Czechoslovakia.

1. 1953-54 Food Balance.

Seed and waste requirements in Czechoslovakia have been changed from the previous balance 27/ as a result of the change in the area seeded. Data on trade have been revised on the basis of more complete information. Only in the estimate of milk has there been a change from the previous food balance and in the methodology for obtaining estimates of industrial uses. A ratio of 23 kg of milk to 1 kg of butter was used.

2. 1954-55 Food Balance.

Data on trade were compiled from many different sources, of which all are available in CIA files. All estimates of trade are preliminary.

Estimates of seed and waste are as follows:

<u>Crop</u>	<u>Acreage (Thousand Hectares)</u>	<u>Seeding Rate (Kilograms per Hectare)</u>	<u>Total Seed (Thousand Metric Tons)</u>	<u>Waste* (Thousand Metric Tons)</u>	<u>Total Seed and Waste (Thousand Metric Tons)</u>
Wheat	780	180	140.4	103.6	244
Rye	645	180	116.1	85.7	202
Barley	620	150	93.0	84.3	177
Oats	600	150	90.0	80.6	171
Other grains	160	60	9.6	18.9	28
Potatoes	600	2,100	1,260.0	765.0**	2,025

Feed has been calculated as a residual figure, except for milk, which has been estimated at 13 percent of production. There has been no change in methodology for estimating industrial uses since the report for 1953-54.

\* A waste factor of 8 percent of production of grains was used in view of extremely unfavorable weather conditions during harvest time.

\*\* Equals 15 percent of production.

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E. East Germany.

1. 1953-54 Food Balance.

Estimates of production in East Germany have been revised on the basis of more complete information, as has the estimate of deliveries of wheat to the Soviet occupation forces, which has been estimated at 150,000 tons. The decline in stocks of sugar was estimated at 80,000 tons. Information reveals an increase in consumption of sugar so there were probably no additions to stocks in 1954. For the estimate of industrial uses of milk, the ratio of 22 kg of milk to 1 kg butter 28/ was changed to 28 to 1.

2. 1954-55 Food Balance.

All figures on production of grains and potatoes are as reported in source 29/, except as noted. Data on trade in grains are estimates based on fragmentary evidence from a large number of sources, except data on rice, which is a planned figure. 30/ This applies to trade in all commodities.

Estimates of exports of potatoes were based primarily on the Soviet occupation requirements for 400,000 Soviet troops of 200 kilograms per man per year. Allowing 20 percent for waste, this is about 100,000 tons. Added to this figure are 50,000 tons for normal frontier trade. Estimates of seed and waste are as follows:

<u>Crop</u>	<u>Acreage (Thousand Hectares)</u>	<u>Seeding Rate (Kilograms per Hectare)</u>	<u>Total Seed (Thousand Metric Tons)</u>	<u>Waste* (Thousand Metric Tons)</u>	<u>Total Seed and Waste (Thousand Metric Tons)</u>
Wheat	420	180	75.6	67.8	143
Rye	1,220	170	207.4	146.8	354
Barley	320	150	48.0	16.0	64
Oats	590	140	82.6	31.3	114
Other grains	150	170	25.5	8.1	34
Potatoes	800	1,800	1,440.0	1,755.0**	3,195

\* Equals 3 percent of production for each grain except wheat and rye, each of which equals 8 percent.

\*\* Equals 15 percent of production.

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Three percent of production of wheat was used for feed. Twenty percent of production of rye was used for feed. A residual amount of production of barley and oats was used for feed. An estimate of 800 kg of potatoes per hog was used as the annual feeding rate. This figure, multiplied by 7 million hogs, yielded the estimated amount of potatoes used for feed. The prewar feeding rate was 1,000 to 1,200 kg per hog per year.

In the methodology for estimating the amount of grains and potatoes consumed by industrial uses there has been no change from that employed in the report for 1953-54.

The extraction rate of wheat and rye was raised from 76 to 86 percent; and of "other grains," from 76 to 80 percent. 31/

Production of sugar was estimated at 90 percent of its raw value, estimated at 685,000 tons.

Trade plans for 1955 called for the export of 250,000 tons. 32/ The 1954 plan, however, had called for the export of 227,000 tons, but actual exports amounted to 300,000 tons. It is probable, therefore, that exports in 1954-55 will equal those of 1953-54.

Imports of meat were planned at 60,000 tons, 33/ of which it was assumed that 20,000 tons were to meet Soviet occupation requirements.

It was assumed that 7,000 tons of meat were added to stocks to replace withdrawals during 1953-54.

No allowance for butter was made for Soviet occupation troops. The estimate of imports, 40,000 tons, represents a decrease of 4,000 tons below that for the previous year. 34/

The volume of trade in slaughter fats was assumed to be 86 percent of production in 1953-54. It was assumed that 20 percent of the total supply of slaughter fats was consumed by industry.

Plans for imports of vegetable oils specified 170,000 tons of soybeans and 30,000 tons of peanuts. 35/ The oil equivalent would be 60,000 tons.

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Industrial uses were estimated to have consumed 20 percent of the total supply of vegetable oils. On the basis of available data on trade agreements, imports of fish were slightly above the level of 1953-54.

It is estimated that 10 percent of production of milk was used for feed. Industrial use was estimated on the basis of the quantity of milk required to produce 91,000 tons of butter at the ratio of 28 to 1.

F. Hungary.

1. 1953-54 Food Balance.

Revisions in estimates of production in Hungary from the previous balance 36/ were made for meat, slaughter fats, vegetable oils, and milk. Trade in grains was revised on the basis of more recent and complete information.

2. 1954-55 Food Balance.

Data on trade were compiled from many sources. All estimates of trade are preliminary.

In the methodology for deriving estimates of nonfood uses, there is no change from that employed in the report for 1953-54. 37/ Estimates of seed and waste are as follows:

<u>Crop</u>	<u>Acreage (Thousand Hectares)</u>	<u>Seeding Rate (Kilograms per Hectare)</u>	<u>Total Seed (Thousand Metric Tons)</u>	<u>Waste* (Thousand Metric Tons)</u>	<u>Total Seed and Waste (Thousand Metric Tons)</u>
Wheat	1,357	175	238	73	311
Rye	502	175	88	23	111
Barley	428	150	65	23	88
Oats	223	150	33	14	47
Corn	1,227	40	49	90	139
Rice	23	180	4	2	6
Other grains	25	160	4	1	5

\* Equals 5 percent of production.

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G. Poland.

1. 1953-54 Food Balance.

Estimates of production of sugar, potatoes, meat, fats and oils, and milk in Poland have been revised on the basis of more complete information.

Estimates of trade in grains and sugar have been revised on the basis of more recent information of trade agreements and actual movements of commodities.

The estimate of rye consumed as feed is a residual figure amounting to 17.5 percent of total production.

2. 1954-55 Food Balance.

Production figures, except for fish, have been revised on the basis of more complete information. The estimated production of fish is the same as that of 1953-54.

Trade in grains has been estimated on the basis of trade agreements and the actual movement of commodities, reported by many sources. Estimates of trade in other commodities are assumed to approximate those for 1953-54 because of the lack of data. All estimates of trade should be considered preliminary.

It is believed that consumption of wheat and rye in 1954-55 was approximately the same as in 1953-54. Imports increased considerably in 1954-55, although it is not known whether Poland absorbed all of these imports or whether a portion was destined for other Sino-Soviet Bloc countries. The assignment of 1 million tons of bread grains to stocks was arbitrary, in view of increased imports as well as increased production.

Estimates of seed and waste are as follows:

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Crop	Acreage (Thousand Hectares)	Seeding Rate (Kilograms per Hectare)	Total Seed (Thousand Metric Tons)	Waste* (Thousand Metric Tons)	Total Seed and Waste (Thousand Metric Tons)
Wheat	1,400	180	252	97	349
Rye	4,500	170	765	297	1,062
Barley	900	150	135	55	190
Oats	1,730	150	260	105	365
Other grains	335	140	47	16	63

All other utilization of production was determined by the same methodology as that used for the 1953-54 food balance. A slightly higher proportion (20 percent) of production of rye was allocated for feed.

H. Rumania.

1. 1953-54 Food Balance.

Estimates of production of sugar, meat, milk, and slaughter fats in Rumania have been revised on the basis of more complete information. There was no change in methodology for estimating utilization.

2. 1954-55 Food Balance.

Estimates of trade were derived from data obtained from many sources giving the actual movement of trade for the last half of 1954 and trade agreements in effect during the first half of 1955.

Nonfood and food uses of various commodities were derived by the same methodology as that used to estimate the food balance.

Estimates of seed and waste are as follows:

\* Equals 5 percent of production.

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<u>Crop</u>	<u>Acreage (Thousand Hectares)</u>	<u>Seeding Rate (Kilograms per Hectare)</u>	<u>Total Seed (Thousand Metric Tons)</u>	<u>Waste* (Thousand Metric Tons)</u>	<u>Total Seed and Waste (Thousand Metric Tons)</u>
Wheat	2,450	180	441.0	62	503
Rye	150	180	27.0	4	31
Barley	500	155	77.5	11	88
Oats	400	155	62.0	9	71
Corn	3,400	50	170.0	87	257
Rice	20	185	3.7	1	5
Other grains	60	160	9.6	1	11

I. Communist China.

The food balance sheets prepared for Communist China estimating the prewar average and the 1953-54 consumption year have undergone minor revisions from those previously published, 38/ which were based on a constant population of 480 million persons. Those food balances, therefore, reflect primarily the changes in production from year to year, the different levels of net imports or exports, and any changes in utilization and extraction rates.

In 1954 the Chinese Communists published the preliminary results of their first census of the population, as of 30 June 1953. 39/ Those data made possible the recalculation of the estimated availability of food in terms of kilograms per capita per year and caloric intake per capita per day.

Production of food is estimated for the calendar year in which it is harvested or produced. Consumption is computed for the 12 months beginning 1 July of a given production (calendar) year through 30 June of the following year and is associated with the population of 1 January. Another adjustment was necessitated by the fact that only part of the Chinese population lives in areas for which data on production are available.

\* Equals 3 percent of production.

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The total population reported by the Chinese Communists as of 1 June 1953 was 601,938,035, including 31,582,299 persons living in Formosa, the Inner Mongolian Autonomous Region, Sinkiang, Tibet, and Changtu, as well as overseas Chinese and students studying abroad. The net population as of 30 June 1953 in the Chinese Communist area for which data on production are available was 570,355,736.

Assuming that the annual increase in population averaged 1 percent, the net population as of 30 June 1954 was estimated at 576,059,293. The average of these two figures, 573,207,514, is the estimated population as of 1 January 1954, to be associated with the food balance for the 1953-54 consumption year. The population to be associated with the 1954-55 food balance is 578,939,589.

The estimates of population were carried back to 1 January 1932, on the assumption that the annual change in numbers averaged 1 percent.

The average of the years 1931 through 1937 is used as the prewar base for comparison of production of food in China and is used as the average of the years 1931-32 through 1937-38 prewar base for comparison of consumption. The average population associated with the average prewar consumption year is the average of the population as of 1 January for the years 1932 to 1938, which is estimated at 473,661,737.

These revisions in population, resulting in certain changes in kilograms of food available per capita per year and the daily per capita caloric intake, are presented in Tables 36, 37, and 38.\* Recent information also has made possible revisions in the estimated gross production of certain commodities.

#### 1. 1931-38 Food Balance.

The revisions in production, together with the revised estimate of population, have resulted in an upward revision of the estimated caloric intake from 2,057 calories per capita per day to 2,071 calories per capita per day, an increase of 0.7 percent.

\* See Appendix A.

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a. Grains.

Estimated production of wheat has been revised from 22,508,000 tons to 22,763,000 tons 40/; of corn, from 8,696,000 tons to 8,627,000 tons 41/; of millet, from 9,878,000 tons to 9,778,000 tons 42/; of kaoliang, from 11,066,000 tons to 11,365,000 tons 43/; of miscellaneous grains, from 1,096,000 tons to 1,435,000 tons. 44/ There were no changes in estimated imports or exports of grains. In view of the revised estimates of production, appropriate revisions have been made in the pertinent figures, according to the principles of methodology described in the previous report on food balances. 45/

A specific adjustment had to be made in estimates of seed and waste because of revisions in certain of the previous estimates of acreage. This adjustment results in changes in the estimates of seed allowances, to which 3 percent of the revised estimate of production has been added to account for waste.

Estimates of seed are as follows:

<u>Commodity</u>	<u>Hectares (Thousands)</u>	<u>Seeding Rate (Kilograms per Hectare)</u>	<u>Seed Allowance (Thousand Metric Tons)</u>
Wheat	21,454 <u>46/</u>	105	2,253
Corn	5,896 <u>47/</u>	70	413
Millet	7,735 <u>48/</u>	35	271
Kaoliang	7,987 <u>49/</u>	55	439
Broadbeans	2,805 <u>50/</u>	105	295

Seed and waste for miscellaneous grains are estimated at 159,000 tons. This is the same proportion that is allowed in source 51/ for the previous estimate of miscellaneous grains.

b. Potatoes.

Estimates of exports of sweet potatoes have been revised from 0 to 3,000 tons, 52/ and of seed and waste from 2,933,000 tons to 2,979,000 tons. 53/ Estimates of production of white potatoes

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have been revised from 3,660,000 tons to 2,962,000 tons 54/; estimates of exports, from 35,000 tons to 21,000 tons 55/; and estimates of seed and waste, from 874,000 tons to 661,000 tons. 56/ Appropriate changes in utilization have been made according to the principles laid down in the footnotes for the previous balance. 56/

c. Sugar.

Cane sugar exports remain unchanged. 58/

d. Pulses and Oilseeds.

Vegetable oilseeds include soybeans, rapeseed, peanuts (unshelled basis), sesame, and cottonseed. The estimate of production of oilseeds has been revised downward from 18,199,000 tons to 17,708,000 tons. The revisions for all seeds except cottonseed are in conformity with the data given in source 59/.

Cottonseed was estimated to be in bales of 478 pounds in the ratio of 2 pounds of seed to 1 pound of lint, as reported by the US Department of Agriculture, 60/ and utilization was assumed to be in the same ratio as in the original prewar food balance.

The estimate of production of broadbeans has been revised downward from 3,358,000 tons to 3,018,000 tons. 61/ Estimates of exports of "other beans" have been revised from 85,000 tons to 86,000 tons. 62/ Minor adjustments have been made in utilization.

e. Fats and Oils.

Production of vegetable oils was assumed to be 20 percent of the revised estimate of oilseeds used industrially -- 1,601,000 tons. Exports of oilseeds were revised from 110,000 tons to 113,000 tons, including both China proper 63/ and Manchuria (average 1935-38). 64/ Industrial uses of oilseeds were estimated to consume 12.8 percent of the total supply, as in the previous food balance. 65/

2. 1953-54 Food Balance.

In revising the food balance sheets prepared for Communist China for the consumption year 1953-54, a revised population figure of

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573.2 million has been used instead of the figure of 480 million used in computing the previously reported 1953-54 food balance. <sup>66/</sup> This increase in population of about 19.4 percent would indicate a corresponding decrease in the supply of food per capita in terms of kilograms per year as well as calories per day, other things being equal. Recently obtained information, however, has resulted in the upward revision of certain substantive estimates in the 1953-54 food balance, so that the estimated supply per capita in terms of kilograms per year has been reduced by only 11.4 percent and the estimated calories per day by 12.2 percent.

a. Grains.

There have been no revisions in previous estimates of production of wheat, miscellaneous grains, nonglutinous and glutinous rice in 1953. <sup>67/</sup> Revisions have been made in estimates of production of certain grains (in thousand tons), as follows: barley, from 6,646 to 7,338 <sup>68/</sup>; oats, from 814 to 1,039 <sup>69/</sup>; corn, from 9,892 to 10,331 <sup>70/</sup>; millet, from 9,142 to 9,494 <sup>71/</sup>; proso-millet, from 1,392 to 1,612 <sup>72/</sup>; and kaoliang, from 10,150 to 9,988. <sup>73/</sup>

Estimates of exports (in thousand tons) have been revised as follows: wheat, from 100 to 11; oats, from 0 to 2; corn, from 100 to 46; millet, from 100 to 250; and kaoliang, from 100 to 250. The foregoing estimates and all other figures on the trade of Communist China are preliminary, based on incomplete data plus allowances for the movements of commodities indicated by trade agreements.

The estimates of seed and waste have been revised on the basis of revised estimates of production and acreage. Estimates have been made for grains, potatoes, broadbeans, and field peas as follows:

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<u>Commodity</u>	<u>Acreage (Thousand Hectares)</u>	<u>Seeding Rate (Kilograms per Hectare)</u>	<u>Seed Allowance (Thousand Metric Tons)</u>	<u>Waste* (Thousand Metric Tons)</u>	<u>Total Seed and Waste (Thousand Metric Tons)</u>
Wheat	26,668 74/	105	2,800	670	3,470
Barley	6,824	105	717	220	937
Oats	1,307	85	111	31	142
Corn	7,887	70	552	310	862
Rice					
Nonglutenous	18,879	75	1,416	1,370	2,786
Glutenous	1,120	70	78	76	154
Millet	8,444	35	295	285	580
Proso-millet	1,837	40	73	48	121
Kaoliang	8,029	55	442	300	742
Potatoes					
Sweet (16 percent of production allowed for seed and waste)					4,588
White (26 percent of production allowed for seed and waste)					614
Broadbeans	3,142	105	330	90	420
Field peas	3,479	90	313	93	406

Estimates of winter crops other than wheat were based on 1953 acreages. Summer crops also were based on 1953 acreages. This estimate of planted acreage does not agree with estimates of acreage published elsewhere for 1954, which generally are estimates of harvested acreage. The estimates of acreage used here are preliminary and are subject to revision.

Changes in estimates of production have necessitated changes in the estimates for feed and industrial use. These changes are based on the percentage factors used in the prewar food balance, 75/ taking into consideration certain differences in practices between China proper and Manchuria.

The estimated extraction rate for wheat flour has been raised from 85 percent to 90 percent. The estimated extraction rates for nonglutenous and glutenous rice have been raised to 82 percent and

\* Equals 3 percent of production.

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78 percent, respectively, from the 74 percent and 70 percent used in estimating the prewar food balance. 76/ These revisions were made because in the fall of 1953 the Chinese Communists began enforcing the grain-processing standards that were set in 1950. 77/ Early in 1954, this policy of enforcement affected the availability of both wheat 78/ and rice.

b. Potatoes.

The estimate of production of sweet potatoes has been revised downward from 32,475,000 tons to 28,673,000 tons, 79/ and appropriate changes in utilization have been made, resulting in a decrease in estimated grams per capita per year from 39.9 to 29.5 and a decrease in estimated calories per capita per day from 106 to 78.

c. Sugar.

The estimate of production of cane sugar has been increased from 383,000 tons to 390,000 tons. 80/ Estimates of exports have been increased from 75,000 tons to 92,000 tons. The revision in the estimate of the population resulted in a revision of the estimate of calories per day from 10 to 9.

d. Pulses and Oilseeds.

Estimated production of vegetable oilseeds has been reduced from 17,570,000 tons to 16,175,000 tons. The revised estimate includes data for China proper 81/ for various seeds (in thousand tons), as follows: soybeans, 5,400; rapeseed, 2,750; unshelled peanuts, 2,100; and sesame, 675. To these figures have been added estimates for Manchuria (in thousand tons), as follows: soybeans, 3,650; and peanuts, 150. An estimate of 1,450,000 tons of cottonseed was based on an estimate of lint cotton 82/, applying the ratio of 1 ton of lint to 2 tons of seed.

Exports of vegetable oilseeds were estimated (in thousand tons), as follows: soybeans, 1,159; peanuts, 406; sesame, 81; and rapeseed, 24. These are estimates based on many scraps of information on shipments and commitments. An estimate of wastage, computed at 3 percent of production, was added to the estimated

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requirements for seed, which were obtained by applying certain factors 83/ to the following acreages: rapeseed, 4,757,600 hectares 84/; and cotton, 4,122,300 hectares.\* The 1954 estimate of cotton acreage is based on the estimated 1943 acreage of 3,787,300 hectares 85/ plus 335,000 hectares planned for expansion in 1954. 86/ The following acreages also were estimated to have been seeded for 1954: soybeans, 8,341,700 hectares; peanuts, 1,320,900; and sesame, 1,271,700.

The oilseed allowance for feed for livestock was estimated at 6 percent of the production of soybeans -- 543,000 tons. The quantity of oilseeds consumed directly as human food, estimated at 5,477,000 tons, includes soybeans, peanuts, and sesame. The estimated proportion of the crop consumed directly was based on source 87/ for soybeans and peanuts and on source 88/ for sesame.

The estimate of 6,626,000 tons of oilseeds used industrially is a residual figure derived by subtracting exports and other utilization from the total supply. \*

On the basis of recent information, 89/ the estimate of production of broadbeans has been revised downward to 2,993,000 tons and the estimate of production of field peas revised upward to 3,105,000 tons.

e. Meat.

The estimates of production of meat for the different classes of livestock have been revised since the completion of the food balance prepared in the spring of 1954. The factors and methodology used in estimating production of meat from livestock numbers are given in source 90/. The basis for the estimate of livestock numbers is given in source 91/.

Estimated production of poultry meat, based on poultry numbers, was revised upward with the revision of livestock estimates. Because of the comparable importance of poultry and hogs to the household, it was assumed that poultry increased at the same rate as hogs. With an approximate increase of 14 percent in poultry, production of eggs was correspondingly increased.

\* This is the seeded acreage and does not correspond to the harvested acreage for 1954, because of the destruction of considerable cotton by the floods of that year.

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f. Fish.

The estimate of the fish catch in Communist China is preliminary and subject to revision. Before World War II, official landings totaled 1.7 million tons, and unofficial landings were estimated at 1.5 million tons. The largest part of the unofficial estimate stemmed from estimates of the catch from pond culture, which was largely unreported. 92/ There is no information available on total official landings in 1953. Official landings were reported by the Chinese Communists for Kwangtung in 1953. 93/ The total catch was estimated on the assumption that the Kwangtung catch in 1953 would bear approximately the same relation to the total catch that it did in 1952. The total catch for 1952 is from source 94/ and the Kwangtung catch for 1952 is from source 95/. It is assumed that unofficial landings have increased from the 1952 estimate by the same percentage that official landings were estimated to have increased.

g. Fats and Oils.

Total production of vegetable oils was calculated from estimated production of five oilseeds. The methodology employed is similar to that used in the 1953-54 food balance. 96/

<u>Type</u>	<u>Supply for Oil* (Thou- sand Metric Tons)</u>	<u>Extraction Rate (Percent)</u>	<u>Oil Production (Thousand Metric Tons)</u>
Soybeans			
China	1,501	10.4	156
Manchuria	532	12.3	64
Peanuts			
China	441	25.0	110
Manchuria	10	40.0	4
Rapeseed	2,501	28.0	700
Sesame	469	37.0	174
Cottonseed	1,172	10.0	117
Total	<u>6,626</u>		<u>1,325</u>

\* Each of the figures is a residual derived from production less export (if any) and other utilization.

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Information is lacking on which to base a definitive estimate of industrial uses of vegetable oils. A considerable amount of vegetable oils was used for lighting purposes before World War II. With the growth of industry, it is probable that there has been some increase in the industrial use of vegetable oils. The shortage of vegetable oils and the increased supplies of petroleum, however, make it probable that there has been some decrease in the use of oils for lighting. It was estimated that, in 1953-54, industrial uses consumed approximately 50 percent of the amount thus consumed in 1931-34. <sup>97/</sup> The estimated increase in production of pork fat was 16.3 percent over the 925,000 tons previously reported, <sup>98/</sup> in conformity with the increase in production of pork. The figure was rounded to 1.1 million tons.

3. 1954-55 Food Balance.

a. Grains.

Production of wheat in 1954 was estimated at 24,825,000 tons, <sup>99/</sup> taking into account the losses occasioned by the 1954 floods. The estimates of acreage and production of barley and oats for China proper were carried over at the level of 1953, with allowance made for flood losses. Estimates of spring barley and oats grown in Manchuria were increased from the estimated levels of production in 1953 in proportion to the total increase of 3 million tons in production of grains in Manchuria.\* <sup>100/</sup>

Production of corn, millet, and kaoliang in China proper was estimated as equivalent to the 1953 acreage, minus the acreage under flood in 1954 multiplied by the average yield of 1953. To this figure was added 1953 production in Manchuria plus a proportionate share of the estimated 1954 increase of 3 million tons in Manchuria. There is no reported production of proso-millet in Manchuria. Production of proso-millet in China proper was estimated in the same

\* Production of grains in Manchuria in 1953 was estimated at 18,709,000 tons. <sup>101/</sup> Favorable weather conditions are estimated to have raised the 1954 grain crop to 21,800,000 tons, an increase of 3 million tons. This increase was distributed among the various grain crops in proportion to the harvested acreages of 1953.

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manner as production of millet. The estimate of production of rice in China proper was based on the 1953 acreage minus the estimated flooded acreage multiplied by the 1953 average yield raised 6 percent, as indicated by source 102/. To this quantity was added the estimated Manchurian production of rice, obtained in the same manner as the estimated Manchurian production of millet. Estimates of foreign trade in grains, as well as in all other products for 1954-55, are preliminary approximations based on scraps of information obtained during the first three quarters of the year ending 30 June 1955. At this time it can be assumed only that the exports of certain commodities in 1954-55 were approximately the same as in 1953-54. The quantities involved are so small that they would have had only a minor effect on the caloric intake per capita per day.

At the present time the only estimate that can be made is that the seed requirements may be approximately the same as those indicated in the tabulation on page 86, above, giving the seed requirements for the acreage to be harvested in 1954. In each, 3 percent of estimated production has been added to the seed requirements to allow for waste.

Estimates of grains used for livestock feed and of industrial uses for all grains, including rice, were assumed to bear the same percentage relation to total production as they did in 1953-54. 103/

Estimates of extraction rates for flour and grain meals are the same as in 1953-54. The extraction rate for nonglutinous rice has been raised from 82 percent to 84 percent, and for glutinous rice, from 78 percent to 80 percent. The latter revision was made because the austerity measures announced in the fall of 1953 104/ began to show their effects in the spring of 1954.

b. Potatoes.

The estimate of production of sweet potatoes in China proper was based on the 1953 acreage minus the estimated flood acreage in 1954 multiplied by the average yield of 1953.

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The estimate of production of white potatoes in Manchuria has been carried over at the level of 1953.

Seed and waste for sweet potatoes were estimated at 16 percent of production and, for white potatoes, at 26 percent of production, as in 1953-54.

Potatoes used for feed were estimated at 20 percent of production for sweet potatoes and 7 percent of production for white potatoes, as in 1953-54. Sweet potatoes used industrially were estimated at 5 percent of production for sweet potatoes and 6 percent of production for white potatoes, as in 1953-54.

c. Sugar.

Production of sugar was estimated on a regional basis. The estimate of production in Kwangtung was increased in proportion to the announced acreage expansion.\* Acreages estimated for 1953 and 1954 are from sources 105/ and 106/, respectively. The estimate of production in Szechuan was increased according to the plan announced for production of sugar in the Tokiang River area. 107/ The estimate of production in the northeast was increased by the same percentage that total crop production increased in the northwest. The estimate of production in the rest of China was increased in proportion to announced production in 1953-54 in Fukien.\* Total increases are equivalent to 50,000 tons.

d. Pulses and Oilseeds.

Production of soybeans in China proper was estimated at 4,674,000 tons, obtained by multiplying the 1953 acreage less the estimated flood acreage in 1954 by the 1953 average yield. To this quantity was added 4,320,000 tons for Manchuria, estimated as the proportionate share of the estimated 3-million-ton grain increase in the northeast in 1954.

Production of peanuts in China proper was estimated at 2.1 million tons and at 150,000 tons in Manchuria, as in 1953. Rapeseed was estimated at 2,887,000 tons. 110/ Production of sesame seed was estimated at 519,000 tons, based on the 1953 acreage minus the estimated 1954 flooded acreage multiplied by the 1953 average yield.

\* See source 108/ for 1953 and source 109/ for 1954.

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Production of cottonseed was estimated at 1,306,000 tons, twice the figure for production of lint cotton in 1954, computed as follows: the 1954 acreage seeded to cotton was estimated at 4,122,300 hectares, from which 706,600 hectares (based on source 111/) were deducted for flood damage. The remaining figure, 3,415,700 hectares, was multiplied by the estimated yield of lint cotton per hectare (191.2 kg), 112/ resulting in an estimate of 653,000 tons of lint cotton. Total production of oilseeds was estimated at 15,956,000 tons.

The estimate of trade was based on what little is known of trade in the July-December period in 1954, on estimates of the relative flow of exports in the first half of 1954 in relation to the second half, and on the use of the trade data estimated for 1953-54.

With the exception of rapeseed, the 1955 oilseed crops were not planted at the time these estimates were made. The estimates of the latest known year were therefore used -- in this case 1954, which indicates a seed requirement of 1,347,000 tons. Waste was computed at 3 percent of all production of oilseeds, except cottonseed for which 5 percent was used. The resulting total of 505,000 tons indicates seed and waste at 1,852,000 tons.

Feed was estimated at 6 percent of production of soybeans, as in the 1953-54 food balance.

The quantity of oilseeds available for industrial use (oil extraction) is a residual figure left after deducting other nonoil uses from the total supply. Nonoil use also includes a quantity of oilseeds consumed directly.

Oilseeds consumed directly are soybeans, peanuts, and sesame. The proportion of soybeans and peanuts consumed directly was based on source 113/. The amount of sesame consumed directly has been held at the same ratio used in source 114/.

Data on broadbeans and field peas have been carried over from estimates of the 1953-54 food balance.

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e. Meat.

The methodology used in estimating production of meat from livestock numbers is given in source 115/. The basis for an estimate of livestock numbers is given in source 116/. The methodology for estimating livestock numbers is as follows:

For numbers of cattle and buffalo, it was estimated that the annual rate of increase would be one-third as great as the average annual increase between 1949-53. This estimate was based on three considerations: (1) the average annual increase of cattle and buffalo was based on a series of years of expanding crop production; (2) in 1953, production of crops leveled out, and in 1954 it suffered a decline because of adverse weather conditions; and (3) cattle numbers estimated for 1953 were in excess of the estimated prewar numbers. It was assumed that the number of hogs and poultry in 1954-55 would be approximately the same as in 1953-54. It is believed that the decrease in crop production in 1954 and the actual death losses caused by the 1954 floods will act to prevent a net increase. In the case of sheep and goats, it was concluded that one-third the rate of increase between 1952 and 1953 was the best estimate of increase for 1954-55. Although the rate of increase in sheep and goat numbers has been extremely rapid over the past 5 years, it tended to slow down in the latter part of the period, and this trend probably will continue.

f. Eggs.

The estimate of production of eggs has been carried over at the level of 1953-54.

g. Fish.

The estimate of the fish catch for Communist China is preliminary and subject to revision. To date, it is not known what the Chinese Communists claim as the size of official landings. Expected official landings were given by the Chinese Communists for Kwangtung in 1954. 117/ Later reports of the spring catch indicate that the plan for 1954 may be fulfilled. 118/ An estimate of the total catch was derived by assuming that the Kwangtung catch for 1954 bore the same relation to the total catch as it did in 1952. The unofficial landings were assumed to have increased from the 1953 estimate of unofficial landings by the same percentage that official landings were estimated to have increased.

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h. Fats and Oils.

Estimated production of vegetable oils -- derived by employing the methodology previously described 119/ -- is as follows:

<u>Type</u>	<u>Supply for Oil (Thou- sand Metric Tons)</u>	<u>Extraction Rate (Percent)</u>	<u>Oil Production (Thousand Metric Tons)</u>
Soybeans			
China	1,412	10	141
Manchuria	791	12	95
Peanuts			
China	526	25	132
Manchuria	10	40	4
Rapeseed	2,613	28	732
Sesame	374	37	138
Cottonseed	1,306	10	131
Total	<u>7,032</u>		<u>1,373</u>

The estimate of vegetable oils consumed for industrial uses is the same as in 1953-54. Production of pork fat was estimated to be the same as in 1953-54 because the number of hogs probably remained the same.

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## APPENDIX C

### GAPS IN INTELLIGENCE

The three major gaps in intelligence on food balances in the Sino-Soviet Bloc concern state food reserves, trade, and animal feed.

One of the most serious gaps is the lack of information on annual additions to, or releases from, the state food reserves, and on total quantities of food stored. These statistics are significant in determining the total supply of a commodity available for consumption and in evaluating the intentions and capabilities of the Sino-Soviet Bloc.

Information is also lacking on trade in foodstuffs within the Sino-Soviet Bloc. Very little information on trade is available except for East German-Soviet trade and even this information is incomplete on East German reparations and occupation deliveries of foodstuffs to the USSR. Intra-Bloc trade in foodstuffs has a more significant effect on availabilities of food in the European Satellites than in the USSR or in Communist China. A more concentrated effort in compiling intra-Bloc trade data and the opening of new sources of information will narrow the range of error.

The third important gap in information concerns the allocation of cereals and potatoes for animal feed. Most of the feed allocations have been based on prewar factors. The validity of these factors and the amount of variation between crops need the support of current information. Studies on livestock feeding which will be done at a later date may help to fill this gap.

Although other gaps in information exist in the food balances, the three gaps cited above are the most significant in influencing estimates of the food available for annual consumption. Other gaps in information pertain to factors or quantities which are held relatively stable from year to year and therefore have little or no effect on trends in consumption in terms of a national average.

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APPENDIX D

SOURCE REFERENCES

Evaluations, following the classification entry and designated "Eval.," have the following significance:

<u>Source of Information</u>	<u>Information</u>
Doc. - Documentary	1 - Confirmed by other sources
A - Completely reliable	2 - Probably true
B - Usually reliable	3 - Possibly true
C - Fairly reliable	4 - Doubtful
D - Not usually reliable	5 - Probably false
E - Not reliable	6 - Cannot be judged
F - Cannot be judged	

"Documentary" refers to original documents of foreign governments and organizations; copies or translations of such documents by a staff officer; or information extracted from such documents by a staff officer, all of which may carry the field evaluation "Documentary."

Evaluations not otherwise designated are those appearing on the cited document; those designated "RR" are by the author of this report. No "RR" evaluation is given when the author agrees with the evaluation on the cited document.

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